

**Eye Gaze Diversion and Dissociation in External and Internal Shame:
A script-driven procedure**

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By

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ABSTRACT

The current study examined Gilbert's (1998) concept of internal and external shame, and the degree to which eye gaze diversion is associated with the activation of shame generally, or is more isolated to when either external (i.e., perceived negative judgements from others) or internal (when shame-evoking evaluations come from the self) shame is experienced. The study also examined experiences of dissociation to ascertain whether there is a relationship between shame and dissociation. It was hypothesised that if shame is associated with internal and external observations, more gaze diversion will occur when participants are looking at themselves in the mirror or at the experimenter than when looking at a blank board, during the shame induction. Secondly, if eye gaze diversion is more strongly related to external shame, participants will look away from the experimenter more, during the shame induction. Thirdly, if eye gaze diversion is more strongly related to internal shame, more gaze diversion will be evident when they view themselves in the mirror during the shame induction. It is also thought that experiences of dissociation will increase after the shame induction. Psychology students from the University of Canterbury ($n = 78$) completed four measures assessing trait and state shame and dissociation, and listened to audio clips of shame-inducing and neutral scenarios while either viewing themselves in a mirror (internal shame), looking at the researcher (external shame) or looking at a blank board (control). Eye gaze diversion was recorded across scripts and conditions. Although initial analyses did not reach significance, simple effects analyses do indicate that eye gaze diversion is more associated with external shame than internal shame or shame more generally. Furthermore, state dissociation was significantly higher following shame inductions, when compared to the neutral induction. Taken together, results indicate support for hypotheses two and four and do not support hypotheses one and three.

CHAPTER ONE

INTRODUCTION

Shame is “one of the most powerful, painful, and potentially destructive experiences known to humans” (Gilbert, 1997, p. 113). Generally, it arises after moral indiscretions or incompetence and brings about feelings of worthlessness, inferiority, and a damaged self-image (Tangney, 1999). Shame was once described as a “hidden emotion” or a “sleeper” in psychopathology (Lewis, 1987a). Since that time however, much research and investigation has uncovered various aspects of shame, resulting in some arguing that shame is the “bedrock of psychopathology” (Miller, 1996; p. 151). Frequent and sustained experiences of shame are related to several psychological disorders, including depression (Andrews, 1995; Kaufman, 1989), borderline personality disorder (Lieb, Zanarini, Schmahl, Linehan, & Bohus, 2004), post-traumatic stress disorder (Leskela, Dieperink, & Thuras, 2002), complex post-traumatic stress disorder (Miller & Resick, 2007), dissociative disorders (Dorahy, 2010) and antisocial behaviour and hostility (Tangney, Wagner, Fletcher, & Gramzow, 1992). While some researchers suggest there is a consensus regarding the empirical and clinical nature of shame, regarding its form and function, many still voice different views. Furthermore, as Gilbert and Andrew’s (1998) point out, effective methodologies to explore these differences remain scarce.

Given the delicate nature of shame in psychopathology, its role in human interactions, the fact that empirical work has lagged behind other emotions, and that it is often ignored in therapy (Hahn 2009), it is important to investigate features of shame that may be detectable

by mental health professionals. These include the behavioural aspects that signify the presence of shame.

This thesis and the following review aim to elaborate on the central features of shame as well as integrate recent literature investigating shame. More specifically, the review will explore the role of shame with regard to social relationships, compare internal and external shame based on Gilbert's conceptualisation, and examine non-verbal behavioural markers of shame, including eye gaze diversion phenomena. Furthermore, research on the links between trauma, shame and dissociation are presented. Relevant methodologies utilised in shame induction experiments are also reviewed, with an aim to develop a more effective method in the current study.

1.1 Shame Defined

Shame is a complex psychophysiological experience. It can be conceptualised in terms of affect (as a primary emotion in its own right or a combination of other emotions such as fear, anger and self-disgust), cognitions and beliefs about the self (e.g., that one is or is seen as inferior or inadequate) and behavioural aspects (such as running away, hiding or attacking others) (Gilbert & Andrews, 1998). While a painful experience, it is argued that shame (or fear of experiencing shame) benefits humans by way of rectifying rule violations in social interactions. Human social behaviours are governed by numerous rules, which individuals inevitably violate, thereby threatening the harmony of social relationships (Goffman, 1967). To repair social relations, humans rely on appeasing those who observe social transgressions, and re-establishing social harmony following rule violations. The fear of shame and subsequent ridicule can be so powerful that people will risk serious physical injury or even death to avoid it (Gilbert, 1989). This is because shame can indicate serious damage to social acceptance and a breakdown in a variety of social interactions and

relationships. Moreover, shame can guide behaviour, influence feelings about ourselves, and form a sense of self-identity and feelings about social acceptability and desirability (Dorahy & Clearwater, 2012; Gilbert, 1998; Tangney & Dearing, 2002). This rich and powerful human emotion has an important influence on several aspects of psychological functioning, such as cognition, behaviour, emotion, sense of self and physiology, operating at the individual, interpersonal, group and cultural levels throughout life (Tangney & Dearing, 2002).

In defining this complex emotion, it is important to differentiate shame from the closely related affective experience of guilt, embarrassment and humiliation.

1.1.1 Shame versus Guilt

Although guilt and shame are terms that are used interchangeably, current theoretical and empirical literature highlights that these are distinct affective experiences (Tangney, 1990, 1991). Lewis (1971) defined guilt as a person's negative evaluation of certain behaviours and shame as a negative evaluation of the entire self. Specifically, guilt can be defined as an unpleasant feeling similar to remorse (an emotional expression of personal guilt felt after committing an act deemed to be hurtful, or violent; (O'Hear, 1997)) and regret (a negative conscious and emotional reaction to personal past acts and behaviours; (Lucas, 2004)) accompanied by the belief that one should have thought, felt, or acted differently based on a set of internalised standards (Kubany, 1994). Guilt involves the belief that one has done something "wrong" or "bad." It evokes a desire to repair or make-up for the perceived or actual damage caused by the behaviour. Although an individual's experience of guilt may include momentary thoughts that he or she is a bad person, the focus remains on a specific behaviour and his or her self-concept and identity remain intact

(Tangney, 1990). Thus, guilt may be less painful than shame and often leads an individual to make amends (Gramzow & Tangney, 1992).

In contrast, shame is conceived of as a more devastating and painful emotion in which the entire self, not just the behaviour, is negatively evaluated (Tangney, 1991). Shame theoretically involves painful self-scrutiny, and feelings of worthlessness and powerlessness (Tangney, 1990). Also hypothesised is an associated sense of sudden and unexpected exposure, which renders the individual feeling diminished or defective (Lewis, 1971). Shame conceptually, therefore, may lead to a global and debilitating painful affective reaction with a desire to hide or escape from others (Gramzow & Tangney, 1992).

1.1.2 Shame versus Embarrassment

There have also been suggestions that shame and embarrassment may be distinguishable in various ways. Shame is generally assumed to be a more intense emotion than embarrassment. For instance, Buss (1980) and Lewis (1992) suggested that shame results from more serious failures and moral transgressions, whereas embarrassment follows relatively minor social misdemeanours. In fact, although Buss (1980) cited a variety of differences between the two emotions (e.g., with embarrassment being less intense; more likely to be accompanied by blushing, smiling, or feelings of foolishness; and less likely to involve feelings of regret and depression), he strongly implied that the root of these differences lies in the nature of the shame versus embarrassment-eliciting event: "Shame has moral implications, but embarrassment does not" (p. 161).

Other theorists have identified different patterns of attributions for negative events associated with shame and embarrassment. Klass (1990) proposed that shame is associated with perceived deficiencies of one's core self, whereas embarrassment results from deficiencies in one's presented self. As a result, shame is associated with more global and

enduring negative attributions about oneself, whereas embarrassment is tied to more transient, situation-specific failures and pratfalls. Buss (1980) similarly contrasted the enduring loss of self-esteem of shame with the temporary loss of self-esteem of embarrassment.

Miller and Tangney (1994) found that shame and embarrassment appeared to be distinct emotional experiences. Participants in their research were required to sort descriptive statements into ‘shame’ and ‘embarrassment’ based on their own past experiences. It was noted that shame is a more intense, enduring emotion that follows more serious transgressions and the revelation of one’s flaws, while embarrassment results from trivial events and is associated with feelings of awkwardness (Tangney, Miller & Flicker, 1996).

1.1.3 Shame versus Humiliation

Similarly, there appears to be differences between shame and humiliation also. Miller (1993) sees humiliation as related to pretensions, arising when “we are revealed to have had aspirations and beliefs that are beyond our capabilities” (p. 9). Humiliation implies an activity occurring between oneself and another person. Humiliation can be defined in various ways – it can refer to a feeling about where the self is positioned in relation to others; but it is also an interpersonal interaction. Moreover, humiliation involves being put into a lowly and powerless position by someone who has, at that moment, a greater power than oneself. Conversely, shame involves a reflection upon the self, by the self, whereby ashamed persons view and judge themselves as being inferior or inadequate (Miller, 1988). Klein (1991) argued that “people believe they deserve their shame; they do not believe they deserve their humiliation” (P. 117). While both shame and humiliation focus on harm to the self, humiliation may be a less self-conscious and self-focused experience when compared to shame, because another is seen to be responsible. As such, humiliation entails a focus on the

other as bad rather than the self, external rather than internal attributions for harmful events, a sense of injustice and unfairness, and a desire for revenge (Gilbert, 1997).

1.2 The Motivation of Shame

Some studies find shame elicits avoidance behaviours, such as withdrawal and a willingness to hide (e.g., Scherer & Wallbott, 1994; Wicker, Payne, & Morgan, 1983). Other studies find shame motivates approach behaviours such as pro-social behaviour and a willingness to repair social indiscretions (e.g., De Hooze, Breugelmans, & Zeelenberg, 2008). Most shame theories have been unable to explain these opposite responses; they generally state that shame induces avoidance and ignore the possible activation of approach motivations and behaviours (e.g., Lewis, 1992; Tangney, 1999). Recently, an explanation was provided for these seemingly conflicting motivations in the face of shame (De Hooze, Zeelenberg, & Breugelmans, 2010). This focuses on the notion that the self is the primary object of shame and shame inhibits maintaining a positive view of the self (e.g., Tesser, 1988). People are often motivated to maintain and defend positive evaluations of the self (Rogers, 1959). A positive self-view can counteract the fears that arise from an awareness of inevitable death (Pyszczynski, Greenberg, Solomon, Arndt, & Schimmel, 2004), and may function as a socio-metre that reflects the extent of people's inclusion in social groups (Leary & Baumeister, 2000). In shame, it is exactly this positive self-view that is threatened (De Hooze et al., 2010).

According to the functional approach to emotion, negative emotions signal a threat to a goal or concern and subsequently motivate behaviours to deal with this problem (Frijda, 1986; Zeelenberg & Pieters, 2006). At a social level, emotions direct social interactions and relationships to meet the problems of survival (Keltner & Haidt, 1999) by informing the person about the specific events that need to be acted upon and by preparing the person to respond to problems that arise in social interactions (Campos, Campos, & Barrett, 1989).

Applying the functional approach to shame leads to the idea that the motivations and behaviours associated with this emotion are focused on dealing with the threatened positive self-view. Depending on whether the damage done to the self-view by shame can be addressed by an action will depend on whether approach or avoidance behaviours are engaged (De Hooze et al., 2010). People may demonstrate approach behaviour, such as entering performance-orientated situations or undertaking reparative actions, when they sense that their self-view can be restored. But when restoration of the self-view is considered as exceedingly difficult, perceived as impossible or judged as too risky in the sense that additional failure would hurt the self-view even more, people turn to avoidance behaviour in order to protect the threatened self from further harm (Oatley & Jenkins, 1996).

Several lines of research suggest that shame is one of a suite of emotions that function to appease and help individuals respond adaptively to failure or social transgression (Keltner, 1995). First, though dispositional proneness to shame may be harmful, in certain situations the negative nature of momentary state shame is likely to be adaptive. Shame may motivate transgressors to behave in agreement with social norms in the future, in order to avoid subsequent unpleasant states (Fessler, 2007). In the same way that pride's pleasurable affective properties reinforce success, a single episode of shame's unpleasant characteristics may act to prevent further transgressions (Ferguson & Stegge, 1995; Kahan, 1997). Secondly, non-verbal expression associated with shame (e.g., gaze diversion, head bowing; discussed in detail below) may have evolved as a functional social signal to inform onlookers of a) a transgressing individual's awareness that social norms have been violated, and b) respect for those norms. This communication likely increases perceptions of trustworthiness; the transgressor is choosing to acknowledge error, as opposed to ignoring or pretending it did not happen, and thus indicating sincere acknowledgment of, and respect for, the wrongdoing. This is an important signal to send after social misconduct, as those who breach social rules

without communicating an admission of norm violation, may be perceived as disrespectful of the group's norms, and likely to violate other norms in the future (Zahn-Waxler & Robinson, 1995). Thus, if social transgressors do not quickly express their admission and apology, they risk being perceived as untrustworthy, antisocial, and potentially unfit for future social interactions (Gilbert, 2007). Consistent with this notion, researchers have argued that displaying shame indirectly promotes social fitness by allowing for the formation of cooperative social ties that provide protection and allow for the sharing of resources (Barkow, 1989; Baumeister & Leary, 1995; Gilbert, 1997). Individuals who are perceived as trustworthy will be included in social groups, and will benefit from this membership by securing access to shared social and material resources. Shame therefore serves powerful social functions.

1.3 Internal versus External Shame

Shame can be an outward, social event (e.g., being judged and shamed in the eyes of others) or a private feeling regarding one's own personal judgements about their feelings, fantasies, abilities, actions and characteristics. It has long been recognised that humans can have feelings regarding their perception of how others see and judge them (Gilbert & Andrews, 1998). Furthermore, these perceptions can differ from how they feel and think about themselves (Gilbert, 1998). One might engage in (socially defined) deviant sexual activity, consume illicit drugs and commit crime, and know that if caught, feelings of shame may result. However, the individual may not feel this makes them personally bad and may have a number of justifications for their behaviour, reflecting an exception to the traditional experience of shame. Despite often being seen as a self-focused and self-evaluative experience of being inadequate (Tracy & Robins, 2004), shame is fundamentally an experience of the self, related to how individuals think they exist in the minds of others

(Dorahy & Clearwater, 2012; Gilbert & McGuire, 1998). Gilbert (1998, 2002) argues that shame can be both an inner experience of the self that involves an involuntary affective–defensive response to the *threat* of social rejection, or an *actual* experience of rejection or devaluation because one has become unattractive as a social being. The latter suggests that shame can be generated by *external* means, when shame-evoking evaluations and judgements are perceived as coming, or do come, from others. Furthermore, Gilbert (2002) views external shame as an involuntary response to awareness that one has lost status and is devalued. Shame can also be generated by *internal* means, when shame-evoking evaluations come from the self, and the individual judges themselves as undesirable, weak, inadequate or disgusting (Gilbert, 1997, 2002, 2003). Based on a review of current evidence and theory, Gilbert (1998) suggested that it is the, “inner experience of self as an unattractive social agent, under pressure to limit possible damage to self via escape or appeasement” (p.22), which captures internal shame most closely. With regard to internally driven shame, “it does not matter if one is rendered unattractive by one's own or other people's actions; what matters is the sense of personal unattractiveness - being in the social world as an undesired self; a self, one does not wish to be” (Gilbert, 1998, p. 22).

Shame has sometimes been seen to manifest as a result of not reaching standards (e.g., ego ideal), a view shared by psychoanalysts. However, Ogilvie (1987) noted that shame is not necessarily the distance from the ‘ideal self’ or falling short of standards, but how close we feel we are to an “undesired self”. As Lindsay-Hartz, de Rivera, and Mascólo’s (1995) research confirms, there is a distinction between feeling that one is not as good or beautiful as one wants to be and feeling bad or ugly - the unwanted self.

1.4 Non-verbal Behaviours of Shame

According to Darwin (1872), physical expressions of shame are characterised by “the head being averted or bent down, with the eyes wavering or turned askant” (p. 334). A typical shame expression may also be seen with collapsed posture. Studies in recent years have supported all of these observations about shame (e.g. Tracy & Matsumoto, 2008; Tracy & Robins, 2007). Moreover, a growing body of literature now suggests that shame is associated with distinct, cross-culturally recognised non-verbal expressions, which largely agree with Darwin’s early interpretations (Tracy, Robins, & Schriber, 2009; Tracy & Robins, 2004). Based on Darwin’s theory of antithesis and the importance of expanded posture in the pride expression (Tracy & Matsumoto, 2008), the full shame display may include collapsed shoulders and contracted chest—behaviours similar to the “cringing” and lowered posture associated with submission in a range of animal species (Keltner & Buswell, 1997; Maslow, 1936). Many emotion researchers have suggested that a specific head angle is a component in the expression of certain emotions. A bowed head has been proposed as a component of shame (Darwin, 1872; Ekman & Oster, 1979; Izard, 1971, 1991; Keltner & Harker, 1998; Tomkins & McCarter, 1964; Wallbott, 1998).

The distinction between shame and most other emotions can also occur rapidly and efficiently (Tracy & Robins, 2008a). Studies have found that shame recognition rates become slightly, though not significantly, higher when the display includes slumped posture in conjunction with a downward head tilt. Other studies investigating the recognition of shame included only displays with downward head tilt, and no postural movement, finding that shame was more associated with a lowered head angle. It is possible that future studies using a wider range of targets and judges will find additional improvements in shame recognition when bodily features such as eye gaze diversion, are added (Tracy et al., 2009).

Several studies have looked at the behaviour of young children (two to five years old) in the context of failures. Most of the research compared the children's behaviour following successes and failures, which were assumed to produce pride and shame, respectively. Success typically resulted in direct eye contact with the competitor or experimenter, smiles and an open body posture. Conversely, failure led to gaze aversion, frowning, body collapsing and an avoidant posture (Geppert & Gartmann, 1983; Heckhausen, 1984; Lewis, Alessandri, & Sullivan, 1992; Stipek, Recchia, & McClintic, 1992). Failure was also sometimes accompanied by reduced effort and withdrawal from the task situation (Lewis et al., 1992).

In an encoding study of adult displays of shame, researchers compared the non-verbal behaviour displayed when asked questions unrelated to shame (such as why they were studying psychology) with behaviour exhibited in response to shame-inducing questions (such as whether they felt ashamed of any body parts) (Dixon, Huber, Gilbert, Gilbert & Van de Hoek, 1996). Consistent with the aforementioned research, the shame-inducing condition elicited more inward postural movements, and lowered facial expressions compared to the more neutral questions.

Taken together, the results of these studies suggest that the behavioural expression of shame, as revealed in failure circumstances, involves a shrinking and folding in of the body, gaze aversion, and postural avoidance (e.g. turning away), which may indicate inferiority, submission and withdrawal (Gilbert & Andrews, 1998). These studies of shame-related non-verbal behaviour are all limited by a significant factor. There is no certainty that shame was the only or even primary emotion shown by participants, due to the omission of self-report measures. Sadness, frustration and embarrassment are all plausible emotional reactions to the failure condition.

1.4.1 Facial Expression

The face is commonly thought to be the most distinctive and individual part of the body and is capable of conveying more detailed information visually than any other part of the body (Tomkins & McCarter, 1964). Given this, it is likely that it commands the most visual attention in a face-to-face interaction (Ekman & Friesen, 1969). In general, members of Western culture believe that the face provides important information regarding an individual's personal characteristics (Ekman & Friesen, 1969).

The six basic emotions of anger, fear, disgust, sadness, happiness and surprise (Ekman, 1992b; Izard, 1971) have been said to have discrete, universally-recognised facial expressions (Ekman, 2003). However, for a time, researchers were unable to find distinct facial expressions for any self-conscious emotions, including shame. As Lewis (2000) noted, “[s]elf-conscious emotions cannot be described solely by examining a particular set of facial movements; they necessitate the observation of bodily action more than facial cues” (p. 623). Whilst shame is not associated with a discrete facial signature, a number of theorists have argued that all emotions do have universal, discrete non-verbal expressions (e.g., Darwin, 1872; Ekman, 1992b). This suggests that emotions evolved to communicate needs to others, and as such, every emotion should have an expressive signal reflecting its evolutionary origins (Ekman, 1992b).

However, Tracey and Robins (2004) postulate that there are several reasons why self-conscious emotions may not have a discrete facial signal. Firstly, they argue that these emotions may be more effectively communicated via complex non-verbal behaviours rather than a simple, immediate facial muscle movement (Barret & Campos, 1987). Pride acts as an example of a self-conscious emotion which is communicated through postural changes or body movement as opposed to facial expression (Tracey & Robins, 2004b). The signals may be more complex than that of facial expressions, but this may be due to the fact that the

message itself is more complex. Secondly, Tracey and Robins (2004) suggest self-conscious emotions may be expressed more frequently through language than through non-verbal expressions. Self-conscious emotions, such as shame, may have evolved more recently than basic emotions, as social groups and interactions became more complex and varied forms of communication became possible (Ekman, 2003). Moreover, at the point in our evolutionary history when self-conscious emotions emerged, linguistic and gestural forms of communication may have acted over and above facial expression. Finally, Tracey and Robins (2004) suggest that facial signals in self-conscious emotions are absent due to the fact that they can be maladaptive in social interactions, making it more important for them to be regulated. This is due to the notion that facial expressions are more difficult to control than broader body movements and posture, as a result of the involuntary nature of muscular movements in the face (Tracey & Robins, 2004). Consequently, minor facial movements may render the individual's attempt at interaction to be interpreted inaccurately (e.g., a slight curvature of the mouth may be interpreted as a smile or smirk in a situation where smiling would be deemed inappropriate).

In summary, whilst discrete muscular facial movements may be absent, shame appears to elicit an array of non-verbal behaviours including a shrinking and folding in of the body, a lowered head tilt, postural avoidance, and a number of facial movements. Furthermore, among facial behaviours, eye contact in particular ensures a connection between two people is maintained even if distance separates them (Argyle & Dean, 1965). However, despite eye gaze movement being a common behavioural response to shame in a large number of studies, it remains an unconfirmed phenomenon.

1.4.2 Eye Gaze

When two people make eye contact, they may query the purpose of the interaction, or consider how they appear in the eyes of another. It has been proposed that looking at the eyes of a fellow human, generates a vast array of social, cognitive and affective processes, such as heightened self-awareness and a sense of intimacy (Kleinke, 1986). Eye contact can affect a person's emotional response to verbal messages, possibly by personalising the content of those messages (Ellsworth & Carlsmith, 1968; Scherwitz & Helmreich, 1973). In a sense, the person who engages in eye contact not only humanises and individuates themselves, but also individuates the person being looked at, by attending to and forcing the individual to be involved in a personal interaction (Scherwitz & Helmreich, 1973). In a live face-to-face situation, it is important for a viewer to imagine him/herself in the eyes of the other, as their reaction may have a significant impact on the interaction outcomes. Therefore it stands to reason that if these interactions are perceived as negative, then gaze diversion will result, in an effort to minimise this negative experience.

Recent studies have found that the direction of an individual's eye gaze influences the perceived emotion conveyed by neutral faces. Furthermore, the existence of specific combinations of facial expressions and gaze direction has been demonstrated (Adams & Kleck, 2003, 2005). The suggestion is that emotional expressions and gaze direction interact and together, contribute to behavioural motivations to approach or avoid. Adams and Kleck's "shared-signal" hypothesis proposes that when gaze direction is combined with the intent communicated by a specific expression, it will enhance the perception of that emotion. Specifically, joyful and angry expressions are categorised as "approach-oriented" emotions, and as such, are usually accompanied with direct eye gaze. Fearful and sad expressions are considered as "avoidance-oriented" emotions and so are more intense when accompanied by averted gaze.

Ballard, Hayhoe, Pook, and Rao (1997) developed a theory suggesting that pointing with the eyes (deictic eye movement) links environmental objects to variables in cognitive programs/schemas, allowing characteristics of the environment to influence thought patterns. Given this idea, diverting gaze from a potential social threat may minimise the feeling of shame as not being able to see another's gaze may decrease the environmental stimuli that would normally contribute to feelings of shame. Many animal species have developed responses that act as gestures of appeasement and inhibit overt aggression from a threatening other (Lorenz, 1966). The visual behaviour of the victim appears to play an important role in regulating aggressive encounters, a phenomenon seen especially in primates. Ethologists studying primate behaviour (Bolwig, 1964; Van Hooff, 1967) have found that a steady, direct stare is typically a threat display, while facing away, diverting the gaze, or looking down serves as an appeasement gesture. Van Hooff (1967) described the visual behaviour involved in a typical primate appeasement gesture as follows: "The eyes are closed or open only to a small degree. When not closed, the eyes are never directed straight towards the opponent; the animal looks away and often moreover 'faces away'" (p. 29). This pattern is generally brought about when the animal is attacked, especially when escape is impossible, and in response to this submissive behaviour, "the attacker will stop its action in most cases and turn away (p. 29)." The characteristic expression of submission involving gaze diversion was "basically the same in all observed species" (p. 29). Several ethologists have speculated about the applicability of the animal data to human encounters, especially regarding the possibility of effective appeasement gestures in man (Lorenz, 1966).

In general, they seem to agree that gaze aversion probably does act as an appeasement gesture in man, but are unsure how effective this method is. Despite their uncertainty however, it would seem that in a face-to-face aggressive encounter where the victim has a choice between averting his gaze downward and meeting the aggressor's gaze, ethologists

would predict less injury if the individual lowered gaze (Van Hooff, 1967). This prediction would be based not only on the effectiveness of gaze diversion in preventing aggression in other species, but also on the aggressive and threatening properties of direct eye contact in primates. Evidence for the extension of the ethological findings to humans has come from the study of autistic children, who typically refuse to engage in direct eye contact. Hutt and Vaizey (1966) found that these children were never attacked by peers, despite the fact that to a naive outsider they appeared to be easy targets, indicating that their gaze aversion had some signalling function similar to "facing-away".

Several investigators have noted the possibility of a connection between the degree of difficulty processing cognitive information, such as recalling shameful events, and the frequency of eye movements. Among the first to note this possible relation was Day (1964), although he reported no data. Meskin and Singer (1974) noted that questions that required an extensive memory search (e.g., "Describe how Lee Harvey Oswald was shot?") generated greater gaze diversion than did questions that required less search of memory (e.g., "How old are you?"). This study was limited however, by its lack of objective measure of difficulty or of the extent of memory search. Also, there did not appear to be any control over the time taken to answer the question and hence the time available to observe an eye movement. De Gennaro and Violani (1988) used questions rated as 'hard' or 'easy' and noted increased eye movement with more difficult questions. Again, there did not appear to be any control over the time available for observing eye movements. Glenberg, Schroeder and Robertson (1998) demonstrated that people do avert their gaze frequently in order to process more cognitively challenging tasks. Furthermore they demonstrated a functional consequence for eye gaze diversion: the act of averting gaze improves performance. Information-rich components of the environment (e.g., another person) attract attention. Hence, diverting gaze from those

factors (so that they cannot attract attention) is a mechanism that facilitates direction of cognitive resources toward remembering (e.g. a shameful event).

Glenberg (1997) offered a similar result using the resource-based analysis of gaze diversion; people are normally "clamped" to the environment; that is, understanding the world around us is controlled by environmental stimulation (Ballard et al., 1997). However, prediction, recollection, and language comprehension all require effortful disengagement from the environment because the environment may be irrelevant to the focus of those activities (Glenberg et al., 1998). Diverting gaze is a relatively effortless way of disengaging from the environment. Finally, Glenberg (1997) has proposed that disengaging from the environment may be a significant source of individual differences in cognition. That is, planning, recollective memory, and language all seem to require some ability to remove attention from the current environment. If there is reliable variability in the ability to disengage (Ehrlichman & Weinberger, 1978), this variability may be systematically linked to performance of a wide variety of cognitive and behavioural factors, including shame. Furthermore, the notion that processing more cognitively challenging tasks is aided through eye gaze diversion, may directly apply to shame, whereby, in an effort to recollect or verbalise shameful behaviour, an individual may avert eye gaze. Additionally, eye gaze diversion may result from experiencing shame itself, as a means of reducing one's status in the presence of another, or as a behavioural means of reducing acute shame.

1.5 Review of Shame/Mood Induction Methods

In order for researchers to investigate the correlates of shame in controlled settings, effective methods of inducing shame are required. Several strategies have been used.

Robinaugh and McNally (2010) examined the relationship of psychological distress to state shame and guilt upon recalling an autobiographical memory strongly linked to either

emotion. Participants recalled the event in their life most strongly associated with high levels of shame or guilt. The terms shame and guilt were not defined for participants at any point during the study, requiring participants to rely on their own understanding of the terms in order to generate the appropriate memory. Participants then provided a description of the event, noted the time since it occurred, and rated the emotions they felt at the time of the event. They also appraised memory characteristics, including whether during recall they felt a sense of reliving the event or the memory felt fragmented. The State Shame and Guilt Inventory (SSGI; Tangney & Dearing, 2002) assessing current level of shame, guilt, and pride was completed by participants immediately after reporting the characteristics of their memory for the event.

Kraus et al., (2012) induced mood by asking participants to recall a particular event that made them feel sad, shame, or to recall an emotionally neutral event. In particular, participants were instructed to “remember a specific event in your life that made you feel sad, down, or depressed” (sadness mood condition), “shamed, disrespected, or devalued” (shame condition), or to “remember a specific event in your life: i.e. waking up in the morning,” (neutral condition). Participants were further instructed to remember the event as if they were actually experiencing it again. Furthermore, they were instructed to visualise how they were feeling at that moment, as well as significant details about the event. They were then asked to provide a written description of the event in detail (Westermann, Spies, Stahl, & Hesse, 1996). Participants completed the Positive and Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1988) directly following the manipulation. The researchers found that the procedure was successful in manipulating mood. Those in the negative mood and the shame condition both experienced significantly greater negative mood following the manipulation than participants in the neutral condition (Kraus et al., 2012).

Chia-Chi Wang, Ying-Yao Cheng, Wen-Bin Chiou and Chun-Chia Kung (2012) conducted experiments using a diverse set of behavioural measures to determine whether shame increased the desire for money and promoted self-interested tendencies in terms of economic resources. During testing, subjects were randomly assigned to one of three study conditions (shame, guilt, or neutral) using a block-randomised method. The emotional-event recollection technique developed by Leith and Baumeister (1996) was used to induce shame. This recollection technique has been widely used in behavioural priming studies to prime particular concepts or affects (e.g., de Hooze, Breugelmans, & Zeelenberg, 2008; Shariff & Norenzayan, 2007; Zhong & DeVoe, 2010). The experiment was disguised as a self-reflection study. Subjects received a booklet describing self-reflection as “the ability to re-experience past events with significant meaning.” To increase engagement in the task, participants were further told: “People with better self-reflection ability have been found to be better parents, lovers, couples, and managers. Furthermore, they tend to learn lessons from experience, which enables them to avoid making the same mistakes.” For the conditions of guilt or shame, subjects were instructed to recall and write down salient and impressive events that had made them feel a strong sense of guilt or shame. In the neutral-affect condition, subjects were asked to describe a normal weekday.

Various methodologies have been utilised in previous studies to induce shame, including the use of autobiographical memory for events and re-experiencing techniques (particularly of negative mood states, such as shame). Scenario-based shame inductions appear to be an effective means of eliciting the desired emotion, given it is present-focussed and can be manipulated successfully.

1.6 Shame, Trauma and Dissociation

Along with evaluating gaze diversion and shame, the current study aims to investigate dissociative experiences with regard to both state and trait shame. Whilst gaze diversion might represent a behavioural means of reducing acute shame, dissociation might reflect a psychological means of limiting the painful effects of shame. Browne and Winkelman (2007) found negative, shame-related self-cognitions in people with a history of childhood abuse to be strongly linked to trauma symptoms in adulthood. They concluded that the insidious effects of childhood trauma on the self may be maintained by a maladaptive cognitive style.

A study by Matos and Pinto-Gouveia (2010) explored the idea that shame episodes can have the properties of traumatic memories, involving intrusions, flashbacks, strong emotional avoidance, hyper-arousal, fragmented states of mind and dissociation. It was demonstrated that early shame experiences reveal traumatic memory characteristics, and were associated with dissociative symptoms. Moreover, these experiences were associated with current feelings of internal and external shame in adulthood.

1.6.1 Definition of Dissociation

The term dissociation is used to describe a complex range of traits, states and symptoms that have been extensively studied within the research literature. More recently, dissociation has been defined as, “an experienced loss of information or control over mental processes that, under normal circumstances, are available to conscious awareness, self-attribution, or control, in relation to the individual’s age and cognitive development” (Cardena & Carlson, 2011, p.246). This definition encompasses the various forms of dissociation, namely psychological detachment (characterised by a sense of separation from self and/or others) and psychological compartmentalisation (characterised by ones psychological processes lacking integration) (Holmes, Brown, Mansell, Fearon, Hunter, Frasquilho, & Oakley 2005). This definition also allows for the labelling of normal everyday dissociative experiences that cause little or no distress

such as forgetfulness, through to the more extreme dissociative experiences which may cause severe distress and impairment to daily functioning (Cardeña & Carlson, 2011). There remains debate about the degree to which normal everyday dissociation actually reflects true dissociative experiences (Van der Hart, Nijenhuis & Steele, 2006), but measures of dissociation at the current time typically address both normal and pathological dissociative experiences.

1.6.2 Dissociation and Shame

Nathanson (1992) suggested that dissociation is used as a defence against the intensely negative experiences of shame. Intrusive memories of shame-based experiences can become re-traumatising (Matos & Pinto-Gouveia, 2010) and may intensify dissociation (Schoenleber & Berenbaum, 2012). Furthermore, proneness to shame has been described as a trigger for dissociation, especially following childhood abuse (Talbot, Talbot, & Tu, 2004).

Adverse social evaluations (Dickerson, 2008) increase the likelihood of experiencing shame, especially when the social self is threatened (Budden, 2009). The most debilitating threats to self-identity result from perceptions of failure with important interpersonal relationships (Turner & Schallert, 2001), including betrayal (Freyd, DePrince, & Gleaves, 2007), neglect (Bennett, Sullivan, & Lewis, 2010), maltreatment (Deblinger & Runyon, 2005), and sexual abuse (Feiring & Taska, 2005). Milder forms of emotional maltreatment have been related to shame-based experiences also, especially emotional neglect that was associated with later dissociation and shame-based self-schemas (Wright, Crawford, & Del Castillo, 2009).

1.7 Overall Summary

Gilbert (1998, 2002) argues that shame can be both an inner experience of the self that involves an involuntary affective–defensive response to the threat of social rejection, or an

actual experience of rejection or devaluation because one has become unattractive as a social being. Therefore, shame can be generated by *internal* means, evoked by evaluations that are internally focused when the individual is judged by themselves as bad, undesirable, weak, inadequate or disgusting; and shame can also be generated by *external* means, when shame evaluations and feelings are focused on the social and external environment and when the self is seen and judged by others as inferior, inadequate or bad (Gilbert, 1997, 2002, 2003). However, sound research studies to further investigate this notion are sparse. Furthermore, the studies that do exist fail to tease apart internal and external shame, and the resulting behaviours that are elicited.

However, much is known about behaviours that signify the experience of shame in both children and adults. These include body collapse, motor avoidance and eye gaze diversion, and seem to be distinct from the non-verbal behaviours expressed when individuals are sad (Lewis et al., 1992), embarrassed (Keltner, 1995) and guilty (Barrett, Zahn-Waxler, & Cole, 1993). These findings are problematic, as there remains no facial musculature signature for shame, and as such, it is possible that other emotions may be induced or observed, over and above shame.

Regarding eye gaze more specifically, current literature presents a clear focus on its role in human interactions. Recent studies have found that gaze direction influences the perceived emotion conveyed by neutral faces and have demonstrated the existence of specific combinations of facial expressions and gaze direction (Adams & Kleck, 2003, 2005). It has been suggested that looking at the eyes of another, elicits a host of social, cognitive and affective processes, such as heightened self-awareness and a sense of intimacy (Klinke, 1986). In general, the literature appears to agree that gaze aversion probably does serve as an appeasement gesture in humans, but its effectiveness remains uncertain. Several investigators have noted the possibility of a connection between cognitive processing difficulty and the

frequency of eye movements. Furthermore they demonstrated a functional consequence for eye gaze diversion: the act of averting gaze improves performance. If there is reliable variability in the capacity or skill needed to disengage (Ehrlichman & Weinberger, 1978), this variability ought to be systematically related to the execution of a wide variety of cognitive and behavioural factors, including shame. Furthermore, the notion that processing more cognitively challenging tasks is aided through eye gaze diversion, may directly apply to shame, whereby, in an effort to recollect or verbalise shameful behaviour, an individual may avert eye gaze. Generally though, the occurrence and role of eye gaze diversion during a shame experience is largely ignored. Additionally, differences in gaze diversion between internal and external shame in the literature are non-existent.

Research on shame has stressed the key role this emotion plays in human functioning in general, and mainly, its powerful impact in a wide range of psychological symptoms and numerous intrapersonal and social problems (Birchneil, 2000; Gilbert, & Andrews, 1998). Some authors have proposed that shame experiences may be recorded in autobiographical memory as conditioned emotional responses.

Methodologically, shame and other mood induction studies appear to suffer from several limitations. Primarily, the use of retrospective information, in the form of participant memory as a means of inducing an emotion, is undoubtedly subject to recall biases and as such, is likely to weaken the desired outcome. Furthermore, the nature of strong, emotion inducing memories, means that it is unlikely that only one emotion will result, decreasing the likelihood that the desired emotion is producing any effect or being examined in isolation. Both of these factors act to significantly decrease any study's validity and reliability, and as such, more controlled methodologies may rectify this issue. Secondly, the studies presented generally failed to assess whether the desired emotion was present pre and post induction, not

allowing the researcher to assess if the desired emotion was produced, and subsequently the effect this emotion had on participants.

However, the utilisation of scenario-based mood inductions appears to be an effective means of eliciting the desired emotion, given it is present-focussed and can be manipulated successfully. Furthermore, it eliminates the aforementioned limitations around memory bias, and acts as a standardised means of inducing the same emotion across participants.

1.8 The Current Study

Given the state of research around shame, the current study aims to take Gilbert's (1998) concept of internal and external shame and examine whether eye gaze diversion is associated with the activation of shame generally, or is more isolated to when external shame (i.e., perceived negative judgements from others), or internal shame is experienced. The following hypotheses were generated in response to these research questions:

- 1) If shame is associated with internal and external observations, more gaze diversion will occur when participants are looking at themselves in a mirror or at the experimenter than when looking at a blank board, during the shame induction.
- 2) If eye gaze diversion is more strongly related to external shame, participants will look away from the screen more in the condition where they see the experimenter during the shame induction.
- 3) If eye gaze diversion is more strongly related to internal shame, more gaze diversion will be evident when they view themselves in the mirror during the shame induction.

The study will also examine experiences of dissociation to more clearly ascertain the relationship between shame and dissociation.

- 4) It is thought that experiences of dissociation will increase after the shame induction.

CHAPTER TWO

METHOD

2.1 Participants

Participants were 78 undergraduate students from the psychology department of a large New Zealand University, recruited through either a first year psychology participant pool, or via recruitment email (see Appendix A) circulated to all second and third year - level psychology students by department administrators. Each volunteer had his or her name cross-checked to ensure participants were not recruited twice, although no identifying information was able to be traced to their responses. The study was titled “Eye Gaze Diversion and Dissociation with External and Internal Shame: A Script Driven Procedure”.

Of the 78 participants, 75.6% ($n = 59$) were female and 24.4% ($n = 19$) were male. The age of participants ranged from 18 years to 42 years, with a mean of 21 years. In terms of ethnicity, 80.8% ($n = 63$) identified as New Zealand European, 7.7% ($n = 6$) as Māori, and 1.3% ($n = 1$) as Chinese. The remaining 10.3% indicated their ethnicity as ‘other’ and included American European, British, Filipino, Thai and South African.

2.2 Questionnaire Measures

In addition to three brief questions pertaining to demographic information (sex, age, and ethnicity), four questionnaires were used to measure: (a) state shame, (b) state dissociation, (c) trait shame, (d) trait dissociation. Also, a list of emotions (anger, shame, sadness, disgust, surprise, anxiety, embarrassment, guilt and pride) was presented, with participants rating the degree to which they experienced each while completing the induction. The emotions were rated on a scale from ‘0%’ to ‘100%’. Moreover, participants were also

asked to rate how a part of and absorbed in the narrative induction tasks they felt, on a 5-point Likert scale which ranged from 1 (not at all) to 5 (completely). The emotion and absorption questions were asked to assess how effective the shame induction scripts were at producing shame and how well all participants were engaged in the study. All questionnaires were presented and completed online using Version 28611 of Qualtrics Survey Software (2011). Questionnaire responses and layout were kept identical to original paper versions.

State Shame: State Shame and Guilt Scale. (SSGS, Marschall, Sanftner, & Tangney, 1994).

The SSGS (Appendix B) is a self-report measure, consisting of 15 items which yield three subscales of five items; pride, shame and guilt. The measure was developed to provide a validity check for a shame induction experience (Marschall et al., 1994). Participants rate how present the target item was using a 5-point Likert scale which ranged from 1 (not feeling this way at all) to 5 (feeling this way very strongly), thus total scores for each subscale (shame, guilt and pride) ranged from 5 to 25 with a higher score indicating greater amounts of each emotion. Examples of shame items include: “I want to sink into the floor and disappear,” and “I feel small.” In college-age samples the measure had high levels of internal consistency, test-retest reliability, predictive and convergent validity with Alpha coefficients ranging from .82 to .89 for each subscale (Tangney & Dearing, 2002b). In the current study, both pride and guilt items were not included, due to the focus being shame.

State Dissociation: Modified Peritraumatic Dissociative Experiences Questionnaire (PDEQ, Huntjens, 2012).

The modified PDEQ (Appendix C) consists of eight self-report items adapted from the original 10-item PDEQ, which is a self-report questionnaire that measures the extent of dissociation around the time of a distressing event. The wording of the modified questionnaire was adapted to keep it relevant to the current study. Items are scored from 1

(not at all true) to 5 (extremely true). Four of the items in the modified PDEQ address alterations in consciousness and four address structural dissociation. This questionnaire was utilised in the current study to assess levels of dissociation in participants when listening to the induction scripts.

Trait Dissociation: Dissociation Tension Scale (DSS, Stiglmayr et al., 2010). The DSS (Appendix D) is a self-rating instrument for the assessment of psychological and somatoform dissociative experiences (ranging from normal to pathological) as well as uncomfortable inner tension occurring within the past seven days. The DSS contains 21 items assessing dissociative experiences (somatoform dissociation subscale and psychological dissociation subscale) and one additional item assessing aversive inner tension. Ratings are made based on the amount of time a symptom is experienced ranging from 0% (never) to 100% (constantly). The psychometric qualities of the DSS were measured in 294 patients and healthy controls, with internal consistency high (Cronbach's alpha = .92; Gutmann's split-half $r = .92$). Good support for convergent, discriminant, and differential validity was also found (Stiglmayr, 2010). There was clear evidence for the DSS being a sensitive instrument for the assessment of changing symptomatology. It was used in this study to determine levels of trait dissociation in participants.

Trait Shame: The Internalised Shame Scale (ISS, Cook, 1987; 1994; 2001).

The ISS is a measure of shame proneness or internalised shame. It consists of 30 items based on the phenomenological experience of shame among men and women in alcohol recovery programs. Participants answer each item using a 5-point Likert scale that describes how frequently the item is experienced (ranging from 0 - Never to 4 - Almost Always). Six items comprise a self-esteem subscale, and the remaining 24 items comprise the internalised shame subscale. Scores for internalised shame range from 0 to 96. Using a sample of 44 graduate students, Cook (1996) determined that a seven week test-retest coefficient was .85

for the 24-item shame scale. Concurrent validity for the ISS has been established in several studies. Harder, Cutler, & Rockart (1992) compared the overall shame scale of the ISS with the shame subscale of the Personal Feelings Questionnaire (PFQ) and the shame subscale of the Self-Conscious Affect and Attribution Inventory (*SCAAI*; Tangney 1990) and determined that the correlations were .63 and .52 respectively. Construct validity for ISS was established by Rybak & Brown (1996) in a study in which they showed that scores from the ISS shame scale highly positively correlated with anxiety, hostility and depression, and negatively correlated with positive affect (See also Akashi, 1994). Psychometric studies of the ISS have used samples from both clinical and non-clinical populations. The ISS was used in this study to determine levels of trait shame in participants.

2.3 Induction Procedure

Induction scripts were developed by the researchers to induce shame on participants and involved three differing scenarios (See Appendix E). Participants randomly listened to one set of induction scripts (i.e., shame-inducing and its control) on an audio recording and were required to verbalise each, line-by-line, while having their eye and facial movements, and voice, recorded on a camcorder. The scripts involved nasal mucus being discovered on one's face by a bank teller (bank), being caught by a respected family member masturbating to pornographic material in one's bedroom (bedroom), and having soiled underwear in a swimming pool changing room (pool). These scripts were then broken into sentence type, i.e. neutral sentences (the first three or four sentences of each script), shame sentences, shame equivalent sentences (control script) and residual shame sentences (followed the shame and shame equivalent sentences), in order to examine any differences in non-verbal behaviours within the scripts themselves. Additionally, the scenario's design allowed for eye gaze

diversion to be recorded with regard to what segment or line of script the participant was verbalising.

Participants were also required to listen to and verbalise neutral versions of the ‘shame inducing’ scenarios, providing further capacity to examine and compare the impact of the shame scripts. The pairing of scenario (i.e., bank, bedroom, pool) to condition (i.e., shame-inducing, control/neutral) was randomised to ensure experimental control. The shame induction and its neutral counterpart were presented in two different ‘blocks’, with the order of the blocks randomly assigned to each participant. Following each block, participants were required to complete state shame and state dissociation questionnaires to assess levels of shame and dissociative experiences during the inductions.

Participants heard the scripts via headphones in the second person narrative. However when repeating the sentence directly after they heard it, they were required to verbalise it in the first person: for example, participants hear ‘you go into...’ but say ‘I go into...’ The rationale for this was to enhance the power of the induction by personalising the message contained in the induction scripts. These scripts were played via E-Prime Software, which allowed the researcher to control when participants heard each sentence from the scripts, using the spacebar on a keyboard. When participants finished each sentence, the researcher waited two seconds before pressing the spacebar to proceed with the next sentence.

Participants were randomly assigned to a condition, based on identification numbers, prior to commencement of the session.

2.4 Internal and External Shame

In order to examine eye gaze movement in internal and external shame, three experimental conditions were utilised, in conjunction with the three shame and neutral

emotion induction scripts. To assess the eye gaze movement of ‘external shame’, participants were required to look into the eyes of the researcher, through a one-way mirror, while verbalising one of the randomly assigned emotion induction script and its neutral counterpart. Participants in the ‘internal shame condition’ were required to look into their own eyes in a mirror, while also verbalising an emotion induction script and its neutral counterpart. Manipulation of lighting allowed the one-way mirror to act as either a mirror, or a window, depending on the experimental condition. Finally, participants assigned to the ‘neutral condition’ were required to focus their vision on a white stripe placed on a blank black screen that was placed in front of the one-way mirror, while hearing and verbalising the inductions. An image of the final set up can be found in Appendix F.

Outcome Measure: Facial expressions made during these induction scripts were assessed via video. These expressions were coded using Ekman and Friesen’s Facial Action Coding System (FACS: Ekman & Friesen, 1976, 1978), a comprehensive, anatomically based system for measuring all visually discernible facial movement. FACS (Appendix G) describes all visually distinguishable facial expression on the basis of 44 unique action units as well as several categories of head and eye positions and movements. Scoring involved noting each time an action unit occurred, and the precise word/words and sentences. Additionally, these action units were coded either singly or in combination with other units if facial expressions occurred simultaneously.

2.5 The Laboratory Room

The room in which experimentation was conducted was arranged in such a way that video recording and sound quality were optimised. To achieve this, the windows were covered with black plastic sheets and any reflective surfaces were concealed.

The one-way mirror was constructed to be discreet but function with ease. Furthermore, this mirror was erected on a portable stand that could be turned around with ease, allowing participants in the 'external shame condition' to see through the one-way mirror to the researchers' eyes, which were then illuminated by the mounted lights.

In the 'neutral condition' a lamp was placed off to the side of the portable stand, in order for participants to view the white stripes on a blank board that sat in front of the mirror. This ensured a clear and well-lit view of the participant on the video recording. The one-way mirror was carefully placed so that when the participant entered the lab they were unaware it was a one-way mirror.

Finally, a camcorder was mounted on a metal surface that could be rotated on top of the portable stand, to allow for effective recording of participants facial features during the experiment.

2.6 Procedure

Prior to commencing this study, appropriate ethical approval was obtained. Data collection was completed over a four week period.

Following signing up to the study participants received an email thanking them for their interest in the study and providing directions to the location and time of the study.

Upon arrival participants sat in front of a computer screen and were then provided with written instructions briefly outlining the tasks required for the study (see Appendix H). This was further clarified with verbal instructions informing the participant of the study's duration, remuneration, and confidential policy. Furthermore, participants were reminded that some content may offend and consequently, they could withdraw from the experiment at any time. At this point, any questions were answered by the researcher and consent forms were signed (See Appendix I).

Before participants commenced the first set of questionnaires they were provided with the instructions: ‘You will now complete a questionnaire asking about some emotions and experiences you may have and how you respond to them. You will not be asked to give any personal details about your experiences, just the degree to which you feel them. We are interested in getting as accurate a snapshot of your experience as possible. So please be as honest as you can, regardless of your answer.’

Following this, participants completed the brief demographic information, trait shame (Internalised Shame Scale) and trait dissociation (Dissociation Tension Scale) scales.

Participants were then asked to place themselves in front of a one-way mirror and provided with further instruction regarding the next phase (Block 1) of the experiment. This component of the study required participants to listen to one of the shame or neutral emotion induction scripts and verbalise each sentence, while looking at themselves, the researcher or the white strip, dependent upon which condition they were in. Participants were reminded to keep their eyes focused on the target, and to try and immerse themselves in the scenario, thereby increasing the effect of induction. Prior to video recording, participants were asked to place a black shirt on and sit up straight in their chair, in aid of improving video quality. Full instructions provided to participants can be found in Appendix J. Additionally, participants were given the chance to practice the task, using three neutral sentences. During practice, the researcher ensured that participants understood they had to convert the sentences heard from a second person narrative to a first person narrative, when verbalising. The researcher then began recording on the camcorder and started the induction script.

Once this component was completed, participants were then asked to complete the state shame and dissociation scales, as well as scales measuring the degree to which certain emotions were felt during the induction, and two questions pertaining to how much they felt a

part of the story. Again, participants were instructed to be as open and honest about their experiences, when answering the questionnaires, to ensure valid outcomes.

The next phase of the experiment (Block 2) followed the same structure and procedure as Block 1, but with either the shame induction script, or its neutral counterpart presented, based on which script was not used in Block 1. Again, state shame and dissociation scales were completed following this, as well as the two additional scales regarding emotions felt during the induction and how much participants felt a part of the story.

Prior to leaving, participants were provided with a debriefing form (Appendix K) and were verbally debriefed on the aims of the study. Furthermore, they were invited to ask any questions. Those recruited through the Participant Pool were required to complete a small assignment worth two per cent of their final grade in an introductory psychology course (Appendix L). Participants not drawn from the participant pool were given a \$5 voucher for a campus café as a means of remuneration and thanked.

Table 1 – Procedure Summary

1.	Participant entered laboratory.
2.	Written and verbal instructions were provided for the participant, which briefly outlined tasks required (questionnaire completion, audio scripts and further questionnaires to complete).
3.	Participants read and signed consent form.
4.	Demographic information and Trait Shame and Dissociation Questionnaires completed.
5.	Participant places black shirt on and was asked to sit upright in their chair, both of

	which were aimed to enhance recording quality. Additionally, participants were asked to place a pair of headphones on.
6.	Practice sentences played for the participants.
7.	Recording on the camcorder begins. Participants hear and repeat first block of sentences, while looking at themselves, the researcher or the white strip, dependent upon which condition they were in.
8.	Emotion scales, state shame and state dissociation questionnaires completed. Additionally, two questions were answered regarding how absorbed in the story participants felt.
9.	Participants hear and repeat second block of sentences, while looking at themselves, the researcher or the white strip, dependent upon which condition they were in.
10.	Emotion scales, state shame and state dissociation questionnaires completed. Additionally, two questions were answered regarding how absorbed in the story participants felt.
11.	Participants were debriefed and any questions answered.
12.	If the participant was sourced from the first year Psychology Participant Pool, a brief assignment was completed – contributing toward course credit.
13.	The remainder of participants were thanked and provided with a \$5 café voucher.

2.7 Data Analysis

All data gathered was coded and entered into the statistical programme Statistical Package for Social Sciences 19 (SPSS Inc., Chicago, Illinois). Following descriptive statistics analyses, Wilk's Lambda was used as the significance test in overall analysis of variance (ANOVA) calculations. Fisher's Least Significance Difference tests were reported

where post hoc comparisons were utilised. Finally, statistical significance was set at the $p = <0.05$ level.

In order to determine if any significant differences existed across age and trait measures (e.g., shame and dissociation) for the three conditions (i.e., when participants saw themselves in a mirror, saw the researcher or saw a blank screen), a one-way between subjects multivariate analysis of variance (MANOVA) was conducted. To assess the capacity of the experimental procedure to induce shame, self-report ratings of the nine different emotions (anger, shame, sadness, disgust, surprise, anxiety, embarrassment, guilt and pride) rated after the control and shame scripts were examined using a three-way (Script: shame, control; Self-reported Emotion: anger, shame, sadness, disgust, surprise, anxiety, embarrassment, guilt and pride; Condition: mirror, experimenter, blank screen) mixed ANOVA. To further examine the ability of the shame script to elicit shame, a two-way mixed ANOVA was conducted to examine if state shame scores differed from baseline (prior to hearing the audio scripts) to after both the control and shame scripts were heard, across the three conditions. Finally, a two-way mixed ANOVA was conducted to assess the difference in degree to which participants felt a part of and absorbed in both the control and shame scripts across all three conditions.

2.7.1 Process for Examining Gaze Diversion using 'Sentence type'

To test hypotheses 1, 2 and 3, audio scripts (shame and control) heard by participants were broken into 'sentence type' (neutral, shame/shame equivalent and residual shame/residual shame equivalent) and examined across the three conditions (mirror, experimenter and blank screen) in a 2 (Audio scripts: shame, control) x 3 (Sentence type: neutral, shame/shame equivalent, residual) x 3 (Condition: mirror, experimenter, blank screen) mixed ANOVA. Additionally, post hoc LSD tests and t-tests were utilised to further

examine simple effects. The dependent variable was the number of times participants diverted eye gaze.

2.7.2 Process for Examining Gaze Diversion using 'Word-type'

2.7.2.1 Assessing whether shame words versus control/comparison words evoked the most gaze diversion

In order to examine if specific words within induction scripts elicited eye gaze diversion, two members of the research team independently rated which words within the scripts were 'shame-evoking' words. Twenty one of the 261 words were agreed to be shame-evoking words, seven words brought disagreement, producing a Kappa score of 0.823. The list of agreed upon words was then discussed and three were omitted due to being judged as not specifically shame-related words (e.g., nasal). The 19 agreed upon words and their equivalent neutral words accrued from the control scripts can be found in Appendix M.

These words were then compared on SPSS with regard to eye gaze diversion using a 2 (Word type: shame and non-shame words) x 3 (Condition) ANOVA.

2.7.3 Process for Examining State Dissociation following Shame Induction

To test hypothesis 4, a two-way mixed ANOVA was conducted to examine if state dissociation differed across mirror, experimenter and blank screen conditions for both the control and shame scripts.

CHAPTER THREE

RESULTS

3.1 Experimental Condition Characteristics and Manipulation Check

A one-way between subjects MANOVA was conducted to determine if any significant differences existed across age and trait measures (e.g., shame and dissociation) for the three conditions (i.e., when participants saw themselves in a mirror, saw the researcher or saw a blank screen). Descriptive statistics for this analysis can be found in Table 2. No significant differences were found on trait scale scores across the three conditions: ISS Self-esteem, $F(2, 75) = 0.09, p = 0.92$; ISS Shame, $F(2, 75) = 0.02, p = 0.98$; DSS Somatoform Dissociation, $F(2, 75) = 0.73, p = .486$; DSS Psychological Dissociation, $F(2, 75) = 2.16, p = 0.12$; DSS Total, $F(2, 75) = 1.81, p = 0.17$. Additionally, no significant difference existed across age for each condition, $F(2, 75) = 0.70, p = 0.50$. Thus, there were no age, trait shame or trait dissociation differences in participants across the three conditions.

Table 2 – Descriptive Statistics for Age and Trait Measures across Three Conditions

	Condition <i>n</i> = 26	Mean	Standard Deviation
Age	Mirror	21.54	3.90
	Experimenter	22.77	6.12
	Blank Screen	21.35	3.68
ISS – Self-esteem subscale	Mirror	22.04	4.67
	Experimenter	21.58	4.78
	Blank Screen	21.65	3.12
ISS – Total	Mirror	53.50	16.34
	Experimenter	54.19	16.11
	Blank Screen	54.23	14.53

DSS – Somatoform Dissociation	Mirror	6.47	8.71
	Experimenter	9.81	13.52
	Blank Screen	7.49	7.48
DSS – Psychological Dissociation	Mirror	10.46	9.41
	Experimenter	16.01	11.40
	Blank Screen	10.90	11.20
DSS Total	Mirror	8.68	7.65
	Experimenter	13.13	10.50
	Blank Screen	9.35	8.91

3.1.1 Emotion Ratings

To assess the capacity of the experimental procedure to induce shame, self-report ratings of the nine different emotions (anger, shame, sadness, disgust, surprise, anxiety, embarrassment, guilt and pride) were examined when rated after the control and shame scripts. In the control condition, it was found that participants rated ‘Surprise’ the highest ($M = 15.01$, $SD = 21.00$) followed by ‘Anxiety’ ($M = 14.67$, $SD = 22.19$), ‘Embarrassment’ ($M = 10.50$, $SD = 17.65$), ‘Pride’ ($M = 10.36$, $SD = 18.79$), ‘Shame’ ($M = 6.09$, $SD = 12.39$), ‘Sadness’ ($M = 2.58$, $SD = 8.25$), ‘Anger’ ($M = 1.62$, $SD = 7.12$), ‘Disgust’ ($M = 1.36$, $SD = 5.44$) and ‘Guilt’ ($M = 1.04$, $SD = 3.81$). However, in the shame condition, the highest rated emotion was ‘Embarrassment’ ($M = 43.36$, $SD = 35.31$) followed by ‘Shame’ ($M = 34.32$, $SD = 32.60$), ‘Surprise’ ($M = 33.12$, $SD = 30.43$), ‘Anxiety’ ($M = 29.94$, $SD = 32.39$), ‘Disgust’ ($M = 22.29$, $SD = 30.43$), ‘Guilt’ ($M = 12.69$, $SD = 25.07$), ‘Sadness’ ($M = 11.78$, $SD = 22.48$), ‘Anger’ ($M = 8.19$, $SD = 14.02$) and ‘Pride’ ($M = 2.51$, $SD = 7.89$).

Using a three-way (Script: shame, control; Self-reported Emotion: anger, shame, sadness, disgust, surprise, anxiety, embarrassment, guilt and pride; Condition: mirror, experimenter, blank screen) mixed ANOVA, a significant main effect was found for script, $F(1, 75) = 74.69$, $p = <0.001$, partial eta squared = 0.50, such that the shame script evoked

significantly more self-reported emotion than the control script. A significant interaction between script and condition was also found, $F(2, 75) = 5.59, p = 0.005$, partial eta squared = 0.13, indicating that self-reported emotion differed with regard to both script and condition. Examination of this interaction revealed no significant difference across conditions when participants heard the control script, $F(2, 75) = 0.33, p = 0.72$. However, a significant difference was found across condition when participants heard the shame script, $F(2, 75) = 4.29, p = 0.02$. Post hoc tests revealed that the experimenter condition produced more self-reported emotion than the blank screen condition in the shame script (LSD, $p = 0.004$). The emotion main effect was also significant, $F(8, 68) = 12.46, p < 0.001$, partial eta squared = 0.59. Participants rated 'Embarrassment' the highest ($M = 26.93, SD = 21.73$) followed by 'Surprise' ($M = 24.06, SD = 21.63$), 'Anxiety' ($M = 22.30, SD = 23.65$), 'Shame' ($M = 20.21, SD = 18.89$), 'Disgust' ($M = 11.83, SD = 16.05$), 'Sadness' ($M = 7.18, SD = 12.64$), 'Guilt' ($M = 6.87, SD = 13.19$), 'Pride' ($M = 6.44, SD = 10.13$) and 'Anger' ($M = 4.90, SD = 9.80$). Embarrassment was not significantly higher than surprise; $t(77) = 1.23, p = 0.22$, or shame; $t(77) = 1.68, p = 0.10$, but was rated significantly higher than the other emotions.

An interaction was also found for script x emotion; $F(8, 68) = 10.45, p < 0.001$, partial eta squared = 0.55. To further examine this interaction effect, each individual emotion was assessed across control and shame scripts. All self-reported emotions were significantly higher after participants completed the shame script: 'anger', $F(1, 77) = 61.79, p < 0.001$, partial eta squared = 0.28, 'shame', $F(1, 77) = 61.79, p < 0.001$, partial eta squared = 0.45, 'sadness', $F(1, 77) = 13.02, p < 0.001$, partial eta squared = 0.15, 'disgust', $F(1, 77) = 38.82, p < 0.001$, partial eta squared = 0.34, 'surprise', $F(1, 77) = 29.62, p < 0.001$, partial eta squared = 0.28, 'anxiety', $F(1, 77) = 21.50, p < 0.001$, partial eta squared = 0.22, 'embarrassment', $F(1, 77) = 68.66, p < 0.001$, partial eta squared = 0.47, 'guilt', $F(1, 77)$

= 17.96, $p < 0.001$, partial eta squared = 0.19, 'pride', $F(1, 77) = 11.42$, $p < 0.001$, partial eta squared = 0.13.

No significant interaction was found between emotion x condition, $F(16, 136) = 0.67$, $p = 0.82$, partial eta squared = 0.07, or for the three-way interaction of script x emotion x condition, $F(16, 136) = 0.98$, $p = 0.48$, partial eta squared = 0.10.

No main effect was found for condition, such that emotion ratings did not differ across the mirror, experimenter and blank screen conditions, $F(18, 134) = 1.11$, $p = 0.35$, partial eta squared = 0.13. Furthermore, the interaction between emotion and condition bordered on significance, $F(18, 134) = 1.51$, $p = 0.09$, partial eta squared = 0.17.

These results indicate that shame scripts were successful in inducing more shame than the control scripts, particularly in the experimenter condition. Taken together, this suggests the present study's emotion manipulation was successful.

3.1.2 State Shame Measures

To further examine the ability of the shame script to elicit shame, a two-way mixed ANOVA was conducted to examine if state shame scores differed from baseline (prior to hearing the audio scripts) to after both the control and shame scripts were heard, across the three conditions. A significant main effect was found for state shame, where state shame was highest after the shame condition ($M = 8.94$, $SD = 4.57$) compared to both the baseline condition ($M = 5.94$, $SD = 1.81$) and the control condition ($M = 5.94$, $SD = 1.61$), $F(2, 74) = 18.29$, $p < 0.001$, partial eta squared = 0.33. However, there was no main effect for condition, $F(2, 75) = 1.40$, $p = 0.25$, partial eta squared = 0.31. Additionally, the interaction between state shame and condition did not reach significance, $F(4, 148) = 1.89$, $p = 0.12$, partial eta squared = 0.05, indicating that state shame did not differ with regard to which condition participants were in.

3.1.3 Degree to which participants felt a part of and absorbed in shame and control scripts

A two-way mixed ANOVA was conducted to assess the difference in degree to which participants felt a part of both the control and shame scripts across all three conditions. Descriptive statistics for this analysis are presented in Table 3.

Table 3 – Descriptive Statistics for the Degree to Which Participants Felt A part of Scripts

A part of...	Condition	Mean	Standard Deviation
Control/Neutral Script	Mirror	2.54	0.95
	Experimenter	3.23	0.91
	Blank Screen	2.81	0.85
Shame Script	Mirror	3.00	1.17
	Experimenter	3.08	0.89
	Blank Screen	2.88	0.91

Note – Scale scored on 5-point Likert scale from 1 (not at all) to 5 (completely)

While no main effect was found for script, $F(1, 75) = 1.42, p = 0.24$, partial eta squared = 0.02, or condition, $F(2, 75) = 1.59, p = 0.21$, partial eta squared = 0.04, a non-significant trend was evident in the script by condition interaction, $F(2, 75) = 2.78, p = 0.07$, partial eta squared = 0.07. That is to say, participants felt more part of the shame and control script when looking at the experimenter, and least a part of the scripts when looking at the blank screen.

Similarly, a two-way mixed ANOVA was conducted to assess the difference in degree to which participants felt absorbed in both the control and shame scripts across all three conditions. Descriptive statistics for this analysis are presented in Table 4.

Table 4 - Descriptive Statistics for the Degree to which Participants Felt Absorbed in Scripts

Absorbed in...	Condition	Mean	Standard Deviation
Control/Neutral Script	Mirror	2.73	0.96
	Experimenter	3.27	1.17
	Blank Screen	3.08	0.80
Shame Script	Mirror	3.19	1.13
	Experimenter	3.35	0.94
	Blank Screen	3.00	1.06

Note – Scale scored on 5-point Likert scale from 1 (not at all) to 5 (completely)

Again, no main effect was found with regard to how absorbed participants felt in each script, $F(1, 75) = 1.57, p = 0.21$, partial eta squared = 0.02. No main effect was found for condition, $F(2, 75) = 1.19, p = 0.31$, partial eta squared = 0.03. Furthermore, the interaction between how absorbed participants felt in both the shame and control/neutral scripts across conditions did not reach significance, $F(2, 75) = 1.70, p = 0.19$, partial eta squared = 0.04. Taken together, it appears there was no difference in the degree to which participants felt a part of or absorbed in both the control and shame scripts across the three conditions. Mean scores indicate that participants felt moderately part of and absorbed in the scripts (Table 4).

3.2 Test of Hypothesis One, Two & Three – If eye gaze diversion is associated with shame generally, or more associated with internal shame, or external shame:

To test hypotheses one, two and three, audio scripts (shame and control) heard by participants were broken into ‘sentence type’ (neutral, shame/shame equivalent and residual shame/residual shame equivalent) and examined across the three conditions (mirror, experimenter and blank screen) in a 2 x 3 x 3 mixed ANOVA. Table 5 presents the means and standard deviations of eye gaze diversion for the scripts, sentence types and conditions.

Table 5 - Descriptive Statistics for ‘Script’ and ‘Sentence type’ Analysis.

Script	Sentence Type	Condition	Mean	Standard Deviation
Control	Neutral	Mirror	.539	.647
		Experimenter	.423	.902
		Blank Screen	.462	.905
Control	Shame Equivalent	Mirror	.654	1.13
		Experimenter	2.15	2.20
		Blank Screen	1.69	2.24
Control	Residual	Mirror	.192	.634
		Experimenter	.692	1.01
		Blank Screen	.423	.703
Shame	Neutral	Mirror	.269	.604
		Experimenter	.462	1.07
		Blank Screen	.539	1.36
Shame	Shame	Mirror	1.42	1.84
		Experimenter	4.15	6.39
		Blank Screen	1.77	2.92
Shame	Residual	Mirror	.577	1.06
		Experimenter	1.00	2.15
		Blank Screen	.692	1.19

Units - number of times participants divert gaze

A significant main effect was found for script, $F(1, 75) = 6.34$, $p = 0.01$, partial eta squared = 0.08, indicating that there was more gaze diversion in the shame compared to control scripts. Table 6 presents the number of times participants diverted gaze for each sentence type in both the shame and control scripts. From this it can be seen that the shame scripts produce more gaze diversion and as such, are doing what they were designed to do.

Table 6 – Frequencies: number who diverted gaze when verbalising neutral, shame/shame equivalent and residual sentences in both shame and control scripts

Script	Sentence Type	Number of People who Diverted Gaze
Control	Neutral	25
	Shame Equivalent	40
	Residual	22
Shame	Neutral	17
	Shame	46
	Residual	30

A significant main effect was also found for sentence type, $F(2, 74) = 15.46$, $p = <0.001$, partial eta squared = 0.30, indicating that gaze diversion differed depending on what sentence type participants verbalised. Paired sample t-tests were then used to look specifically at the differences between sentence types. These indicated that shame/shame equivalent sentences ($M = 0.51$, $SD = 1.68$) produced significantly more gaze diversion than neutral sentences ($M = 0.12$, $SD = 0.47$), $t(304) = -4.54$, $p = <0.001$ and residual sentences ($M = 0.15$, $SD = 0.55$), $t(304) = 4.79$, $p = <0.001$. No significant difference was found between neutral and residual sentences, $t(304) = -1.36$, $p = 0.18$.

As a test of hypothesis one, the script x condition interaction was examined. This interaction did not reach significance, $F(2, 75) = 1.44$, $p = 0.24$, partial eta squared = 0.30, indicating that condition and script did not have an impact on participant's gaze diversion. Because of the centrality of this interaction for hypothesis one, a one-way ANOVA was produced for further examination. The control script did produce a significant difference in gaze diversion, $F(2, 75) = 3.12$, $p = 0.05$, between the mirror and experimenter condition (LSD, $p = 0.20$), whereby participants looked away more in the experimenter than the mirror condition. No other significant differences were found for the control script. Similarly, a one-way ANOVA was performed on gaze diversion in the shame script. This produced a

non-significant trend, $F(2, 75) = 2.43, p = 0.09$, with the experimenter condition again producing more gaze diversion than the mirror condition (LSD, $p = 0.04$). No other differences were found. The failure of the experimenter and mirror conditions to produce more eye gaze diversion than the blank screen condition for shame/shame equivalent sentences provides no support for hypothesis one (if eye gaze is associated with shame generally, more gaze diversion will occur when participants are looking at themselves or at the experimenter than when looking at a blank screen, during the shame induction).

As a test of hypotheses two and three, the sentence type \times condition interaction was examined. No main effect was found for sentence type, $F(1, 75) = 1.85, p = 0.18$, partial eta squared = 0.02, or condition, $F(2, 75) = 2.89, p = 0.06$, partial eta squared = 0.07. The interaction between sentence type and condition produced a non-significant trend, $F(4, 148) = 2.19, p = 0.07$, partial eta squared = 0.06, such that eye gaze diversion did not differ significantly across the three conditions with respect to sentence type. To effectively assess hypotheses 2 and 3 further, simple effects analyses of this interaction were examined. These indicated that more gaze diversion resulted in the shame/shame equivalent sentences when participants had to look at the experimenter ($M = 3.15, SD = 4.02$) than when having to look in the mirror ($M = 1.04, SD = 1.20$), (LSD, $p = 0.007$). No other significant differences were found. Given this, simple effects analyses support hypothesis two (if eye gaze diversion is more strongly related to external shame, participants will look away from the experimenter during the shame induction) and do not support hypothesis three (if eye gaze diversion is more strongly related to internal shame, more gaze diversion will be evident when they view themselves during the shame induction).

The script \times sentence type interaction also produced a non-significant trend, $F(2, 74) = 2.96, p = 0.06$, partial eta squared = 0.07. Simple effects analyses indicate that eye gaze diversion was significantly higher for shame sentences in the shame script ($M = 0.63, SD =$

2.42) compared to the shame equivalent sentences in the control script ($M = 0.38$, $SD = 1.20$), $t(304) = -2.34$, $p = 0.02$, or the neutral ($M = 0.11$, $SD = 0.56$), $t(304) = -3.90$, $p = <0.001$ and residual sentences ($M = .19$, $SD = 0.84$), $t(304) = 4.08$, $p = <0.001$, in the shame script. This suggests that the shame sentences (evident elusively in the shame script) were the primary producer of gaze diversion.

Finally, the script x sentence type x condition interaction did not reach significance, $F(4, 148) = 1.51$, $p = 0.20$, partial eta squared = 0.04. This indicates equivalence of relationships between which scripts participants verbalised, the sentence type within each script and the condition they were exposed to, with regard to eye gaze diversion.

A 2 x 3 ANOVA was also conducted to assess gaze diversion with regard to ‘word type’ (shame and non-shame words) across the three conditions. Table 7 presents the descriptive statistics for gaze diversion:

Table 7 – Descriptive Statistics for ‘Word Type’ Analysis

Word Type	Condition	Mean	Standard Deviation
Control	Mirror	0.19	0.40
	Experimenter	0.42	0.76
	Blank Screen	0.46	0.71
Shame	Mirror	0.27	0.53
	Experimenter	0.77	1.11
	Blank Screen	0.39	0.80

Units - number of times participants divert gaze

No main effect was found for word type, $F(1, 75) = 1.40$, $p = 0.24$, partial eta squared = 0.02. Furthermore, the interaction between word type and condition did not reach significance, $F(2, 75) = 1.61$, $p = 0.21$, partial eta squared = 0.04. This indicates that gaze diversion did not differ significantly with regard to shame versus non-shame words across the three conditions.

Taken together, despite a failure to find a script x sentence x condition interaction, the other interaction effects and simple effects analyses indicate that eye gaze diversion was highest for shame/shame equivalent sentences in the experimenter condition compared to the residual and neutral sentences in the experimenter condition, or shame/shame equivalent sentences in the mirror condition. This result seemed to be produced by higher eye gaze diversion for shame sentences versus shame equivalent sentences.

3.3 Test of Hypothesis Four – Dissociation will increase after the shame induction

A two-way mixed ANOVA was conducted to examine if state dissociation differed across mirror, experimenter and blank screen conditions for both the control and shame scripts. A significant main effect was found for script, $F(1, 75) = 13.58$, $p < 0.001$, partial eta squared = 0.15, such that there was more state dissociation following the shame script than the control script (Shame: $M = 16.81$, $SD = 6.61$; Control: $M = 14.28$, $SD = 6.14$). Similarly, no main effect was found for condition, $F(2, 75) = 1.60$, $p = 0.21$, partial eta squared = 0.04. The script x condition interaction did not reach significance, $F(2, 75) = 0.10$, $p = 0.99$, partial eta squared = <0.001, indicating that levels of state dissociation following both the shame and neutral/control scripts were not influenced by condition.

This indicates support for hypothesis four – state dissociation increased following the shame induction.

CHAPTER FOUR

DISCUSSION

The present study examined Gilbert's (1998) concept of internal and external shame and whether eye gaze diversion is associated with the activation of shame generally, or is more isolated to when either external shame (i.e., perceived negative judgements from others), or internal shame is experienced. While eye gaze diversion is largely agreed upon as a non-verbal behaviour of shame, empirical evidence remains limited. The study also examined experiences of dissociation to ascertain whether there is a relationship between shame and dissociation. Overall, it was found that eye gaze diversion occurred more frequently when participants were required to verbalise shame inductions, than when verbalising neutral-emotion inductions. Furthermore, the results indicate that participants diverted eye gaze more often when required to look into the eyes of an experimenter than when looking into their own eyes, or a blank screen. Additionally, it was found that state dissociation increased following shame inductions. Taken together, the results of the current study indicate support for hypotheses two and four and do not support hypotheses one and three.

4.1 Overall Findings

4.1.1 Experimental Condition Characteristics and Manipulation Checks

Analysis revealed no significant differences in age, trait shame or trait dissociation across the three conditions, suggesting that any effects seen in the current study were due to the experimental manipulation, rather than these personal individual factors. Self-reported

emotion ratings were significantly higher after the shame induction, as was shame as a specific state emotion.

Additionally, state shame measure scores were significantly higher following shame inductions. However, shame ratings in the shame induction did not differ significantly with regard to whether participants saw themselves, the experimenter or a blank screen. Taken together, the results indicate that the shame script was inducing more emotion, including shame, than its neutral counterpart, but the different conditions did not produce different shame ratings.

Participants reported feeling moderately part of and absorbed in the scripts and importantly this did not differ across conditions or script. In short, the manipulation checks suggest that the mood inductions were successful and results seen in the current study were due to experimental manipulation.

4.1.2 Eye Gaze Diversion and Shame – Sentence Type Analysis

Results from the current study indicate that more gaze diversion resulted following the shame induction when compared with its control counterpart. Supporting this, gaze diversion also increased when participants verbalised shame sentences, when compared to shame-equivalent, neutral and residual sentences. Together, these findings are commensurate with the shame literature to date, which suggests that eye gaze diversion is a common behavioural expression of shame (e.g. Tracy & Matsumoto, 2008; Tracy & Robins, 2007).

Further analyses of the shame/shame-equivalent sentences revealed that eye gaze diversion did not significantly differ depending on whether participants viewed the experimenter, the mirror image of themselves or the blank board. However, simple effects analyses did indicate more gaze diversion occurred when participants verbalised shame sentences while looking at the experimenter than when looking in the mirror or the blank

screen, suggesting that eye gaze diversion is more associated with external shame than internal shame or shame generally, supporting hypothesis two.

It is not surprising that participants diverted gaze more upon having to verbalise a shameful scenario in front of an unknown experimenter, more so, with video technology recording their every movement. This idea is consistent with the existing body of work by Van Hooff (1967) and Lorenz (1966), who both suggest that gaze diversion probably acts as an appeasement gesture, or as a mechanism of minimising the negative experience of shame in the presence of another (Ellsworth & Carlsmith, 1968; Scherwitz & Helmreich, 1973). As such, participants may have felt the need to disengage from the situation in order to placate the experimenter, or to reduce or avoid perceived judgment from the experimenter, as they verbalised sensitive topics such as masturbation and soiled underwear. Scherwitz & Helmreich (1973) provide a possible explanation for this behaviour. They suggest that the person who engages in eye contact not only humanises and individuates themselves, but also individuates the person being looked at, by attending to and forcing the individual to be involved in a personal interaction. In the current study, it may have been important for the participant to imagine him/herself in the eyes of the experimenter, as their reaction may have had a significant impact on the interaction outcomes. Therefore, in an effort to minimise this negative, shameful experience, gaze diversion resulted. Compounding this effect, an unfamiliar room with hanging black sheets and minimal lighting may have acted to increase perceived focus of attention upon the participant, thereby increasing the urge to divert eye gaze. However, results indicate that participants also diverted gaze significantly more often from the experimenter after verbalising shame-equivalent sentences in the neutral script. This suggests that emotion induction aside, staring into the eyes of another for an extended period of time created enough discomfort that eye gaze was broken.

Additionally, examination of eye gaze diversion with regard to shame and control scripts across the three conditions demonstrated no significant differences. However, a more in-depth post hoc analysis did reveal a significant difference in gaze diversion between the experimenter and mirror condition, whereby again, participants looked away more from the experimenter than their reflection in a mirror for both the shame and control scripts. While these results fail to provide support for hypothesis one and three in the current study, they do indicate support for hypothesis two.

Despite state shame not differing significantly across the three conditions, eye gaze diversion occurred less when participants saw their own reflection compared to the experimenter. Various factors may account for why participants diverted eye gaze less when viewing themselves in a mirror, compared to seeing the experimenter. Primarily, it is likely that external shame activates more gaze diversion than internal shame, whereby being shamed in the presence of another generates greater diversion of gaze. Other explanations may also account for this phenomenon. It is possible that some participants concentrated on their own facial features and were comfortable in doing so, thus decreasing observable eye movement. It is also possible that those who partook in the study were merely following instructions to maintain gaze on their own eyes. Furthermore, while there was significantly less eye gaze diversion in the mirror condition when compared with the experimenter condition, results indicate that eye gaze diversion did not differ with regard to when participants viewed their own reflection and when they saw a blank screen. It is possible that participants felt less evaluated with regard to how well they were performing the task and as such, could perform more effectively, which meant maintaining eye gaze with their own reflection or a line on a blank screen.

Taken together, these results pose further questions regarding the primary non-verbal behaviours of internal shame, which, given the current results, appear to differ from that of

external shame. Given initial interactions approached significance, it is likely that a larger sample may have produced statistically significant differences in gaze diversion across the three conditions. In saying that, simple effects analyses do largely agree with Gilbert's (1998) theory of external shame, whereby feeling shame in the presence of the experimenter led participants to divert gaze significantly more than when viewing their own reflection or a blank screen.

4.1.3 Eye Gaze Diversion and Shame – Word Type Analysis

Also of interest, the analysis of eye gaze diversion with regard to 'shame' words and 'non-shame' words revealed no differences, despite a significant increase in gaze diversion on shame sentences, when compared with neutral or residual sentences. It is possible that individual words out of context elicited less gaze diversion, due to significantly less meaning attributed to these words. Furthermore, by coding behaviours as they occur on individual words, data is erroneously missed – e.g. behaviours that occur in between words, after the individual has had time to comprehend semantic meaning – thereby missing instances of gaze diversion, which were otherwise noted when the 'sentence-type' analysis was carried out.

4.1.4 State Dissociation and Shame

This investigation also demonstrated that state dissociation increased following the shame induction compared to the control condition, supporting hypothesis four. Again, this finding is in line with much of the research to date suggesting that dissociation may be used as a defence against the intensely negative experiences of shame (Nathanson, 1992). Matos and Pinto-Gouveia (2010) explored the idea that early shame experiences reveal traumatic memory characteristics, and were associated with dissociative symptoms. Moreover, the researchers suggest that these experiences were associated with current feelings of internal

and external shame in adulthood. While early shame experiences were not the focus of the current research, it is possible that this mechanism had implications on the results observed. Interestingly, levels of state dissociation did not differ with regard to whether participants viewed themselves in a mirror, saw the experimenter, or a blank screen, suggesting the scenarios themselves were powerful enough to induce experiences of dissociation.

4.1.5 Qualitative Observations

Qualitative observations made during the experimental procedure should be taken into account when interpreting results from the current study. These observations revealed that when participants were required to verbalise the sentences in the shame induction, some had a tendency to convert them to the past tense (e.g., “As I reached the height of my arousal, a respected family member rushed into my room”). It is possible that this phenomenon was in aid of participants distancing themselves from the negative emotions felt during the procedure or minimising the effects of those emotions. Moreover, many participants omitted the word ‘respected’ from the phrase ‘respected family member’ particularly in the masturbation script. Again, this could represent a means of minimising the effects of negative emotionality, but may also signify an important aspect of the experience of shame, particularly with regard to how one is viewed in the eye of significant others. Taken together, these verbal behaviours may represent a significant shame experience and assist in accounting for some of the non-significant results seen presently.

4.2 Practical and Theoretical Implications

The ideas presented in the current study have potentially important implications for the distinction between internal and external shame, and may contribute to the existing body of research produced by Gilbert (1998). Moreover, the current research provides evidence

that eye gaze diversion is associated with shame-evoking evaluations and judgements coming from others (i.e. external shame).

Another important implication to be taken from the current research concerns social interactions in general. The ideas presented currently may facilitate the identification of shame, and how this emotion may impact on social interactions. Human beings appear to be uniquely attuned to emotion expressions and their unavoidable implicit messages (Pönkänen, Alhoniemi, Leppänen, and Hietanen, 2011). One consequence of this finding and the findings of the current study is that observers may be vulnerable to making incorrect judgments on the basis of faked, or simply mistaken, emotion expressions, leading to problematic social interactions. Given this, a greater knowledge base concerning the eye gaze movements associated with shame may serve to improve social interactions and avoid unnecessary altercations.

More generally, the current research may aid in the treatment of mental health difficulties. Specifically, identifying and addressing shame and its regulation should be a treatment focus. Although the exact strategies may differ across individuals, it is possible that developing treatment techniques/modules that address maladaptive shame regulation broadly would benefit a substantial portion of those with psychological diagnoses, both where shame is a contributing or maintaining factor, or a direct consequence of a diagnosis. Although it is hoped that clinicians are already attempting to address shame in therapy, most existing treatments generally do not focus explicitly on identifying shame. A few promising, but under-researched, shame-focused approaches have recently appeared in the literature (see Dearing & Tangney, 2011). The current research suggests that clinicians could consider identifying and targeting shame and its regulation by modifying supported therapeutic approaches and include increased time in session focusing on the role of shame regulation in the generation of maladaptive behaviours and their unpleasant consequences. Furthermore, as

research accumulates, new treatment techniques for identifying and addressing shame and its regulation in therapy should be developed and tested.

Shame inductions utilised in the current study may be useful in future research ventures also, particularly the scripts pertaining to being caught masturbating by a respected family member and having soiled underwear discovered by others in a swimming pool changing room. These inductions appeared to have a considerable emotional effect on participants in the current study, as evidenced by participants experiencing significantly more emotion and significantly more eye gaze diversion following shame inductions. This induction method may assist in overcoming the limitations outlined in Chapter One, such as utilising unreliable retrospective information as a means of inducing emotion upon participants.

4.3 Methodological Considerations

Several aspects of the current study may have limited the research in various ways. While each induction script was produced to be of a similar length and structure, sentence length within these scripts varied, with some sentences far longer than others. Some participants commented on having difficulty retaining the sentence heard during the induction, and then repeating the sentence verbally. This can be seen clearly in a number of recordings, with some repeating the sentence inaccurately, or simply giving up and not repeating the sentence in its entirety. Furthermore, non-verbal behaviours such as smiling, eyes narrowing, brow lowering or raising and jaw movements can be clearly seen in these videos when participants have difficulty repeating a long sentence, and create uncertainty as to whether the behaviours are a direct result of this or are due to the effectiveness of the induction script. Related to this, the dual task of remembering the sentence in order to repeat it coupled with participants trying to immerse themselves fully in the scenario may have

detracted participants from the power of the induction method. Consequently, feelings of shame may have been greater in a more simple methodology. Generally speaking, future replication of the current study may benefit from shortening the length of sentences to reduce memory difficulties upon verbalisation, and improve the quality and effectiveness of the emotion inductions.

While there is a clear distinction between the definition of shame and embarrassment, the lay-person may find distinguishing the two to be difficult. As such, it is possible that participants in the current study reported feeling embarrassment as a result of the inductions, when in fact they were feeling shame. Providing participants with a clear definition of emotions such as a shame, guilt and embarrassment may influence results obtained, whereby participants have a clearer understanding of any emotion felt, and can communicate this more clearly in psychometric scales. Results seen in the current study may have varied if all participants were clear on the distinction between shame and embarrassment.

Participants were recruited via three different means (participant pool, email, and poster advertisements). All three recruitment methods included mention that the study involved the investigation of psychological experiences and non-verbal behaviours associated with emotions. This may have influenced a particular cohort of students to volunteer their participation, for example students whom had a particular interest in the area. The title given to the current study was aimed at keeping interpretation open and minimising any possible bias on participant sign-up. Future research may benefit from including a brief questionnaire asking students what they believed the purpose of the study was. The information sheet provided for participants prior to the commencement of the study contained detailed information as to the nature of the experiment, including the word 'shame'. It is possible that this primed participants to experience shame or feel compelled to report false experiences of shame on the relevant psychometric scales, invalidating results. Future studies may benefit

from removing any terminology suggestive of certain details of the study, thereby ensuring that any emotion reported is due to the methodology and not extraneous variables.

All participants were undergraduate psychology students. Although, this sample was deemed appropriate for this study as the majority of previous research has used similar samples (e.g. Tangney, Wagner, Hill-Barlow, Marschall, Gramzow, 1996), the results of this study may not be generalisable to all populations. Studies looking at self-conscious emotions such as shame would benefit from using other populations, for example non-university student samples, community samples and clinical populations. Additionally, a large percentage of participants in this study were female. Although, this reflects the demographic nature of typical undergraduate psychology courses, research has found that females are more likely to report their inner experiences than males (Giambra, 1999/2000). Studies with an equal proportion of males and females would provide a greater understanding of any differences in the non-verbal expression of shame between males and females.

4.4 Future Research

Future research that utilises a similar methodology to the current study should aim to record the researchers face concurrently with video footage of participants. Small, involuntary movements of the researcher's face during the 'external shame' condition (where participants can see the researcher's face) may have influenced non-verbal behaviours carried out by the participant. For example, upward curvature of the lips or a narrowing of the eyes may be perceived by the participant as a smile, and therefore may evoke a similar reaction in them too. Consequently, some of the non-verbal behaviours seen in the current research may in fact have been a direct result of imitation or interaction with the researcher, rather than as an effect of the shame induction. Controlling for this by comparing recordings of both the researcher and the participant, it would be possible to distinguish between genuine shame

behaviours and behaviours elicited as a result of researcher-participant interaction. Additionally, it would be beneficial to examine if using a participant's well-known and respected family-member or partner, in place of an unknown experimenter, produced differing non-verbal behaviours when experiencing external shame.

Qualitative observations undertaken while carrying out the experiment produced interesting results with regard to both non-verbal and verbal behaviours that were not the focus of the current research. Of particular note, participant's voice volume appeared to differ considerably between 'shame' and 'control' conditions. Additionally, non-verbal behaviours that were not recorded in the current study, such as posture and leg movement, also appeared to be directly affected in the shame induction, when compared with the control scripts. Slumped posture was more evident during shame inductions as well as shifting position in the chair and lower leg movement. It is possible that the aforementioned behaviours are a direct result of emotion induction and could provide a valuable expansion on the current research into the non-verbal behaviours of shame. As such, future forays in this area ought to include other possible physical markers of shame, such as posture and leg movement. Furthermore, greater effort could be afforded to the intricate qualities of verbal behaviours, such as tone, volume and pace of speech.

The current research provided interesting outcomes with regard to eye gaze diversion and its link with self-conscious emotion, and in particular, shame. However, a large body of research suggests that culture has a profound effect on emotions, and particularly on self-conscious emotions (Heine, Lehman, Markus and Kitayama, 1999). This is perhaps due to that notion that self-conscious emotions require evaluations of the self, which in part, are shaped by culture. For example, Markus and Kitayama (1991) claimed that individuals from collectivist cultures tend to view the self as embedded within and dependent upon a larger social context, whereas those from individualistic cultures view themselves as separate from

the wider social system. As such, there is plausibility in the argument that eye gaze diversion behaviours in conjunction with shame, may differ across cultures, and should be investigated with greater vigour.

4.5 Conclusions

The current study aimed to identify whether gaze diversion was generally associated with shame, or was more closely related to Gilbert's (1998) theory of external or internal shame. Furthermore, the paper examined levels of state dissociation following a shame induction. Although initial analyses did not reach significance, simple effects analyses do indicate that eye gaze diversion is more associated with external shame than internal shame or shame more generally. Furthermore, state dissociation was significantly higher following shame inductions, when compared to control groups. The results of the current study suggest that eye gaze diversion is more apparent in external shame. However, questions remain as to whether eye gaze diversion is elicited when experiencing internal shame, and if not, future research ought to examine this phenomenon more closely. Additionally, the current study found that experiences of dissociation increased following shame inductions. Again, this notion supports literature to date. Several methodological limitations may impede the generalisability of significant findings in the current study, including sample-size and an unrepresentative sample. Nevertheless, the current study provides important implications for the identification of shame in therapy and may aid in improving social interactions more generally.

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APPENDIX A

College of Science

Department of Psychology
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Fax: 64-0-3-364 2181
Email: psychology@canterbury.ac.nz



Email Advertisement

We are conducting a study which looks at the non-verbal behaviours of certain emotions. We are interested in learning more about the types of experiences that occur during feelings of certain emotions.

You are invited to be involved as a participant in this study. It will involve a combination of filling in questionnaires and hearing audio clips via head-phones while looking at a screen. Please note that some of the content in the study may offend some participants. It will take approximately 30 minutes to complete and you will be given a \$5 Café 101 voucher for your involvement.

We are looking to recruit university students, so those on the STAR program are excluded from the study.

If you are interested in finding out more about the study or volunteering, please email

Hadyn McKendry on hadyn.mckendry@pg.canterbury.ac.nz

Yours sincerely

Hadyn McKendry (Clinical Psychology Trainee, Masters Student, University of Canterbury)
Martin Dorahy (Assoc. Prof, University of Canterbury)

*This project has been reviewed and approved by the University of Canterbury Human Ethics Committee.
HEC2012/148*

Human Ethics Committee
University of Canterbury
Private Bag 4800
Christchurch

human-ethics@canterbury.ac.nz

APPENDIX B

SSGS

The following are some statements which may or may not describe how you are feeling **right now**. Please rate each statement using the 5-point scale below. Remember to rate each statement based on how you are feeling **right at this moment**.

	Not feeling this way at all	Feeling this way somewhat	Feeling this way very strongly
1. I feel good about myself.	1 -----	2 -----	3 ----- 4 ----- 5
2. I want to sink into the floor and disappear.	1 -----	2 -----	3 ----- 4 ----- 5
3. I feel remorse, regret.	1 -----	2 -----	3 ----- 4 ----- 5
4. I feel worthwhile, valuable.	1 -----	2 -----	3 ----- 4 ----- 5
5. I feel small.	1 -----	2 -----	3 ----- 4 ----- 5
6. I feel tension about something I have done.	1 -----	2 -----	3 ----- 4 ----- 5
7. I feel capable, useful.	1 -----	2 -----	3 ----- 4 ----- 5
8. I feel like I am a bad person.	1 -----	2 -----	3 ----- 4 ----- 5
9. I cannot stop thinking about something bad I have done.	1 -----	2 -----	3 ----- 4 ----- 5
10. I feel proud.	1 -----	2 -----	3 ----- 4 ----- 5
11. I feel humiliated, disgraced.	1 -----	2 -----	3 ----- 4 ----- 5
12. I feel like apologizing, confessing.	1 -----	2 -----	3 ----- 4 ----- 5
13. I feel pleased about something I have done.	1 -----	2 -----	3 ----- 4 ----- 5
14. I feel worthless, powerless.	1 -----	2 -----	3 ----- 4 ----- 5
15. I feel bad about something I have done.	1 -----	2 -----	3 ----- 4 ----- 5

Marschall, D. E., Sanftner, J. L., & Tangney, J. P. (1994)
The State Shame and Guilt Scale

APPENDIX C

Instructions: Please complete the items below by circling the choice that best describes your experiences and reactions *during the movie and immediately afterward*. If an item does not apply to your experience, please circle "Not at all true."

	Very much true			
	Fairly true			
	Somewhat true			
	Not very true			
Not at all true				

- | | | | | | |
|--|---|---|---|---|---|
| 1. I had moments of losing track of what was going on – I “blanked out” or “spaced out” or in some way felt that I was not part of what was going on. | 1 | 2 | 3 | 4 | 5 |
| 2. My sense of time changed – things seemed to be happening in slow motion. | 1 | 2 | 3 | 4 | 5 |
| 3. I felt as though I were a spectator watching what was happening to me, as if I were floating above the scene or observing it as an outsider. | 1 | 2 | 3 | 4 | 5 |
| 4. There were moments when my sense of my own body seemed distorted or changed. I felt disconnected from my own body, or that it was unusually large or small. | 1 | 2 | 3 | 4 | 5 |
| 5. I felt as though things that were actually happening to others were happening to me – like I was being trapped when I really wasn’t. | 1 | 2 | 3 | 4 | 5 |
| 6. I felt confused; that is; there were moments when I had difficulty making sense of what was happening. | 1 | 2 | 3 | 4 | 5 |
| 7. I felt disoriented; that is, there were moments when I felt uncertain about where I was or what time it was. | 1 | 2 | 3 | 4 | 5 |

APPENDIX D

DISSOCIATION TENSION SCALE

Before answering the questions, please let us know how often within the last seven days you have experienced unpleasant, inner tension.

0% 10 20 30 40 50 60 70 80 90 100%

never

constantly

In the last 7 days

1. I could not feel my body or parts of my body.

0% 10 20 30 40 50 60 70 80 90 100%

never

constantly

2. I had problems seeing right.

3. I remembered an event so vividly as if I was just reliving it.

4. I had that feeling as if my body did not belong to me.

5. I had problems hearing right, I heard, e.g. noises around me, as if they came from far away.

6. I experienced difficulties in controlling or coordinating my movements.

7. I stared into space without realizing how quickly time went by.

8. I felt like a robot while pursuing my activities.

9. I could not talk, only whisper, or I had the feeling as if my voice stopped working.

10. I felt a burning sensation, prickling sensation or numbness in some or all body parts.

11. I had the feeling that I was not my usual self or that I was watching myself while doing something - as if I was watching someone else.

12. I felt as if I was paralyzed, numbed.

13. I had this certain feeling - as if other people or other things or the world around me was unreal.

14. I had this sensation that my body or individual body parts were insensitive to physical pain.

15. I was so absorbed in something that I did not realize what was happening around me.

16. I had that feeling that I had done things that I did not remember anymore.

17. I had the feeling that I saw the world through a fog; that other people or things appeared to be unclear or far away.

18. I had this perception of not being able to feel any emotions.

19. I experienced unusual sensory perceptions such as flashes or geometric figures in front of my eyes, or unusual noises or olfactory sensations.

20. I stopped dead in my tracks.

21. I perceived my breathing as having changed.

APPENDIX E

Scenarios + Controls

Scenario One – Bank

- You go into your local Bank (Line 1)
- You walk up to a free Teller (Line 2)
- You ask to withdraw \$100 (Line 3)
- As you stand there, you notice the Teller staring at your face (Line 4)
- The Teller begins to smirk (Line 5)
- The Teller points to your face and mentions you have nasal mucus on your cheek (Line 6)
- You quickly get a tissue from your pocket to wipe your face clean (Line 7)
- As you do so, another Teller nearby laughs mockingly at you (Line 8)
- You wipe the mucus off (Line 9)
- You feel vulnerable, inferior and exposed (Line 10)
- You wish you could dig yourself into a hole (Line 11)
- You take the \$100 in a rush and head for the door (Line 12)
- On the way out you can sense the Tellers talking about you (Line 13)
- You leave the bank (Line 14)

Scenario One – Bank (Control)

- You go into your local Bank (Line 1)
- You walk up to a free Teller (Line 2)
- You ask to withdraw \$100 (Line 3)
- As you stand there, you make conversation with the Teller (Line 4)
- The Teller begins to smile (Line 5)
- The Teller points to your withdrawal form and asks you to sign it (Line 6)
- You notice you haven't and get a pen from your pocket (Line 7)
- As you do another teller nearby smiles warmly at you (Line 8)
- You sign the withdrawal form (Line 9)
- You feel comfortable and relaxed in the bank (Line 10)
- You wished you had more time to talk to the teller (Line 11)
- You take the \$100 and head for the door (Line 12)
- On the way out you say goodbye to the Tellers (Line 13)
- You leave the bank (Line 14)

Scenario Two – Bedroom

- You are in your bedroom, alone (Line 1)
- You turn on your computer and begin to look through websites (Line 2)
- You notice an advert for a site with images of naked people (Line 3)
- You notice yourself getting sexually aroused (Line 4)
- You become more curious about the site, as your arousal increases (Line 5)
- Soon you want to put your hand down your pants (Line 6)
- You undo your pants and begin to masturbate (Line 7)
- As you reach the height of your arousal, a respected family member rushes into your room (Line 8)
- They see you touching yourself, fully aroused (Line 9)
- You feel your face turning red as you remember what is being portrayed on the computer screen (Line 10)
- You quickly retract your hand from your genitals (Line 11)
- The family member apologises and begins to leave (Line 12)
- You worry over what the family member must think (Line 13)
- You feel dirty and exposed (Line 14)
- You don't know how to face the family member again (Line 15)

Scenario Two – Bedroom (control)

- You are in your bedroom, alone (Line 1)
- You turn on your computer and begin to look through websites (Line 2)
- You notice an advert for a site showing cheap flights (Line 3)
- You notice yourself getting excited about its content (Line 4)
- You become more interested in the site as your excitement increases (Line 5)
- Soon you want to begin looking at flight options (Line 6)
- You open the website and begin browsing (Line 7)
- As you're getting more excited about possibilities for a trip, a respected family member rushes into your room (Line 8)
- They see you smiling with enthusiasm (Line 9)
- You feel like telling them about the cheap flights you've found, as they see what's on the screen (Line 10)
- You quickly click on the icon for more flights (Line 11)
- The family member shares your excitement (Line 12)
- You get the impression they are also thinking about taking a trip (Line 13)
- You feel curious about their favourite destinations (Line 14)
- You feel good sharing the idea with your family member (Line 15)

Scenario Three – Swimming Pool

- You decide to go for a swim at your local pool (Line 1)
- You enter the changing room and begin to undress (Line 2)
- You remove your underwear and throw them aside (Line 3)
- You place your swimming togs on and gather your towel (Line 4)
- You notice the person next to you looking at the ground (Line 5)
- A look of disgust comes across their face (Line 6)
- They shout 'YUCK' and point at your underwear (Line 7)
- You notice, in horror, that your underwear is soiled (Line 8)
- You become aware that the noise made by the person attracts attention from others (Line 9)
- They all begin to look (Line 10)
- Some point at you and laugh (Line 11)
- Other people just look disgusted and back away from you (Line 12)
- You quickly attempt to grab your soiled underwear (Line 13)
- You wish you could hide and make the onlookers go away (Line 14)
- You wonder what they must think of you (Line 15)
- You quickly gather up your things and leave the changing room (Line 16)
- You head for your car, still in your togs, wanting to hide from view (Line 17)

Scenario Three – Swimming Pool (control)

- You decide to go for a swim at your local pool (Line 1)
- You enter the changing room and begin to undress (Line 2)
- You remove your underwear and throw them aside (Line 3)
- You place your swimming togs on and gather your towel (Line 4)
- You notice the person next to you and recognise the face (Line 5)
- A look of familiarity comes across their face (Line 6)
- They shout 'HI' and walk over to you (Line 7)
- You notice your underwear on the ground (Line 8)
- You begin talking and other people in the changing room notice (Line 9)
- They join in the conversation (Line 10)
- Some laughter breaks out as you tell a humorous story (Line 11)
- Other people join in (Line 12)
- You grab your underwear as the talking comes to an end (Line 13)
- You feel energised by the discussion and the good humour (Line 14)
- You wonder whether others enjoyed it as much as you (Line 15)
- You gather up all your things and leave the changing room (Line 16)
- You head in your togs to the pool looking forward to your swim (Line 17)

APPENDIX F



APPENDIX G

Coding	Script	Line Number	Word/Phrase
Forehead			
Wrinkles			
Gaze Diversion			
Left			
Right			
Up			
Down			
Eyes			
Eyes Tighten/Narrow			
Eyes Widen			
Eyes Closed			
Double Blink			
Wink			
Eyes Flutter			
Eye Brows			
Brow Lower			
Brow Raise			
Inner Brow Raise			
Outer Brow Raise			
Nose			
Wrinkles Nose			
Mouth			
Corners of Mouth Drop			
Corners of Mouth Raise			
Lip Suck			
Lips Part			
Lips Tighten			
Lip Corner Pulled – Left			
Lip Corner Pulled – Right			
Lip Pucker			
Lip Wipe			
Lip Bite			
Tongue Out			
Swallows			
Sigh			
Cheeks/Jaw			
Cheeks Puff			
Cheek Suck			
Tongue Bulge			
Chin Raiser			
Jaw Clencher			
Jaw Sideways			
Jaw Drop			
Face touches			
Head Movement			
Left			
Right			
Tilt Up			
Tilt Down			
Mispronunciation			
Other			

Participant ID:

APPENDIX H

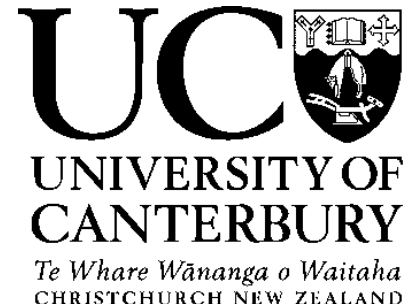
College of Science

Department of Psychology

Phone: 64-0-3-364 2902

Fax: 64-0-3-364 2181

Email: psychology@canterbury.ac.nz



Participant Information Sheet

Eye Gaze Diversion and Dissociation in External and Internal Shame:
A script-driven procedure

You are invited to take part in a research study. Before you decide it is important to read the following information to understand why the research is being done and what it will involve. Please take time to read the following information carefully. Talk to others about the study if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

What is the purpose of the Study?

We would like to know more non-verbal behaviours and psychological experiences when feeling shame.

Do I have to take part?

No. It is up to you to decide whether or not to take part. If you do, you will be given this information sheet to keep and be asked to sign a consent form. You are still free to withdraw without giving a reason at any time up until the merging of your data with that of other participants. If you decide to withdraw during the study by not completing all parts, your data will be deleted. If you complete all parts of the study, your data will be merged with that of other participants and cannot be deleted because your data is completely anonymous. A decision to withdraw, or a decision not to take part, will not have any personal or academic consequences.

What will happen if I take part?

You will complete several questionnaires asking about some emotions and experiences you may have and how you respond to them. **You will not be asked to give any personal details about your experiences, just the degree to which you feel them.** Via head-phones, you will hear audio clips of different scenarios, which you are required to follow and verbalise, line-by-line. During this process, you will need to keep your eyes on a mirror, where you will see either a live image of yourself, a live image of the researcher, or a black surface with a white line. Following the audio clips, you will complete more short questionnaires about your emotions and experiences. The entire procedure will take approximately 25 minutes and you will receive a \$5 Café 101 voucher for your time. Please be aware that we will video tape the research study so we can accurately analysis the findings.

What do I have to do?

Please feel free to ask any further questions to either Hadyn McKendry (hadyn.mckendry@pg.canterbury.ac.nz), who will be running the study with you, or Martin Dorahy (Clinical Psychologist and Assoc. Prof, University of Canterbury; martin.dorahy@canterbury.ac.nz; Ph.: 364 3416).

What are the possible disadvantages of taking part?

While you will not be asked to describe any events you may have found distressing, you will hear and repeat out loud a story that may temporarily activate feelings in you like embarrassment. Please note that some of the content in the study may offend some participants. Consequently, this may be distressing. If you have any lingering feelings you can talk with the researcher, who is training to be a clinical psychologist or his supervisor, who is a clinical psychologist. In addition, a list of support and counselling services is provided below if you would find that helpful.

What are the possible benefits of taking part?

The information provided by you and other participants may not be of direct benefit to you, but may help in developing more about responses to emotions, which we hope to apply to the therapeutic setting to help people with emotional problems.

Will my taking part in the study be confidential?

Yes. All the information about your participation in this study will be confidential and the data collected will be given a random number generated by the computer. You will not be required to put your name or any identifying details on any materials that include data. Instead a number will be used to match all questionnaires together. This will ensure that the data provided by you is anonymous. The research team have a duty of confidentiality to you as a research participant and nothing that could reveal your identity will be disclosed outside the research site. Your individual data will be merged with data from other participants. There will be approximately 70 people taking part in the study. Results from this study may be published. Furthermore, Master's Theses are public documents **via the University of Canterbury library database**.

Contact Details:

If you have any further questions or wish to contact someone either before or after the study, please contact Hadyn McKendry (Clinical Psychology Trainee, Masters Student) on hadyn.mckendry@pg.canterbury.ac.nz or Dr Martin Dorahy (Clinical Psychologist/Assoc. Prof, University of Canterbury) on (03) 364 3416 or martin.dorahy@canterbury.ac.nz. You will have the opportunity to discuss your experience of participating at the end.

In the first instance your data will be part of a research project conducted as part of Hadyn McKendry's Masters Research. It is also the intention of the researchers to write this work up for publication in a psychology journal. If you would like a summary of the final results, please contact Martin Dorahy (03 364 3416 or martin.dorahy@canterbury.ac.nz).

If you have any questions or concerns about your rights as a participant in this research study you can contact an independent health and disability advocate. This is a free service provided under the Health and Disability Commissioner Act. Telephone: (NZ wide) 0800 555 050; Free Fax (NZ wide): 0800 2787 7678 (0800 2 SUPPORT); Email (NZ wide): advocacy@hdc.org.nz

Name of researchers

Martin Dorahy (Clinical Psychologist/Assoc. Prof, University of Canterbury); Hadyn McKendry (Clinical Psychology and Masters Student, University of Canterbury).

This project has been reviewed and approved by the University of Canterbury Human Ethics Committee -

Ref: HEC 2012/148.

Human Ethics Committee
University of Canterbury
Private Bag 4800
Christchurch

human-ethics@canterbury.ac.nz

Support Services

Samaritans: 0800 726 666

Lifeline: 0800 543 354

Counselling services

University of Canterbury Counselling service: (03) 364 2402

Petersgate Counselling Service: (03) 343 3391

Emergency services

Psychiatric Emergency Services: (03) 364 0482

APPENDIX I

College of Science

Department of Psychology

Phone: 64-0-3-364 2902

Fax: 64-0-3-364 2181

Email: psychology@canterbury.ac.nz



Consent Form

Title of Project:

Eye Gaze Diversion and Dissociation in External and Internal Shame:

A script-driven procedure

Name of researchers:

Martin Dorahy (Clinical Psychologist/Assoc. Prof, University of Canterbury); Hadyn McKendry (Clinical Psychology and Masters Student, University of Canterbury)

Please initial box

1. I confirm that I have read and understand the information sheet dated for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without any personal or academic consequences. If I complete the study, my individual data will be merged with data from other participants.
3. I understand that my participation is confidential, i.e., that any information provided by me is confidential and data provided by me is anonymous.
4. I agree that the research be video taped
5. I agree to take part in the following study
6. I consent that my data be merged with all the other data and become part of a publication in a mental health journal and honours project submission.

☐☐☐☐☐

Name of Participant

Signature

Date

Researcher/clinician

Signature

Date

This project has been reviewed and approved by the University of Canterbury Human Ethics - Ref: HEC 2012/148.

Human Ethics Committee
University of Canterbury
Private Bag 4800
Christchurch

human-ethics@canterbury.ac.nz

APPENDIX J

INTRODUCTION SCRIPT

Thank you for coming in! – I'll get you to sit over here and we can have a chat about this form. Basically, it outlines a number of things that you'll be doing in this study:

- **Questionnaires**
- **Audio tasks in which you hear sentences and have to repeat them**
- **Further questionnaires after each audio task** (In between hearing stories, you will also be asked to complete questionnaires)

The purpose of today is to gather information on non-verbal behaviours and psychological experiences when feeling certain emotions.

The entire procedure will take approximately 30 minutes and you will receive a \$5 Café 101 voucher for your time **and/or** credit for your 1st year course. Have a read over the form yourself and let me know if you have any questions. **READ AND SIGN CONSENT FORM.**

PUT BLACK SHIRT ON

BEFORE TRAIT SCALE:

You will now complete a questionnaire asking about some emotions and experiences you may have and how you respond to them. **You will not be asked to give any personal details about your experiences, just the degree to which you feel them.** We are interested in getting as accurate a snapshot of your experience as possible. So please be as honest as you can, regardless of your answer.

BEFORE AUDIO CLIPS:

(Before instructions for external shame – have kit lights on and the back set of lights)

(Can you see without your glasses on??)

I will now get you to sit in front of our mirror/window/screen and give you some headphones to put on. You are going to hear a story broken into sentences. After each sentence, I would like you to repeat the sentence. However, the sentences you HEAR are in the second person e.g. you will hear “**you** rode the bike”. Your task is to REPEAT the sentence – but in the first person e.g. “**I** rode the bike”.

I would ask that you concentrate your efforts on looking at:

- YOUR EYES (internal),
- MY EYES (external),
- THE WHITE STRIPS (neutral)

Also, we would ask that you get as absorbed as you can in the story. Try imagining yourself fully in the story. I will be recording this process on the video camera – but I want you to know that only the researchers will be viewing the recording. Also, I will be turning off the main lights to enhance the quality of the study **(CHECK MICROPHONE AND SV-1)** (e.g. if asked why – “so you can see yourself better, see the researcher more clearly etc). Is this OK?

(PRE RECORDING) *For practice, you are going to hear THREE sentences. After each sentence, you will have an opportunity to repeat the sentence.*

Remind participant they are changing sentences heard from second person – into first person.

I would ask that you concentrate your efforts on looking at:

- YOUR EYES (internal),
- MY EYES (external),
- THE WHITE STRIPS (neutral)

REMEMBER - get as absorbed in the story as you can. Try imagining yourself fully in the story.

Please make sure you sit up as straight as possible throughout the recording. (CHECK HATS/GLASSES ETC)

BLOCK 1: Now, you are going to hear approximately 15 sentences. After each sentence, you will have an opportunity to repeat the sentence.

Again, I would ask that you concentrate your efforts on looking at:

- YOUR EYES (internal),
- MY EYES (external),
- THE WHITE STRIPS (neutral)

REMEMBER - get as absorbed in the story as you can. Try imagining yourself fully in the story.

Please make sure you sit up as straight as possible throughout the recording. (CHECK HATS/GLASSES ETC)

BLOCK 2: You're going to hear another story broken into sentences. I'd like you to do the exact same thing as before and convert the sentences you hear from the second person to the first person.

Finally, just remember to look into my eyes and get as absorbed in the story as possible.

(PRE QUESTIONNAIRES)

Now I'll get you to complete another questionnaire.

We are interested in getting as accurate a snapshot of your experience as possible. So please be as honest as possible, regardless of your answer.

APPENDIX K

Debriefing

It is important for us to get feedback on your experience as a participant in this psychology experiment. Doing so helps us to better understand your perspective and enables us to provide a better experience in the future as well as helping us to minimize or eliminate the potential for participants to feel uncomfortable or distressed. We will work through each question together.

How are you feeling about doing the study?

Was there anything that you found interesting about the study?

Was there anything that you found distressing about the study?

Do you have any questions regarding the study or anything that you would like to discuss with me?

Debrief on Details of Study:

The current study aimed to take the concepts of internal (i.e., negative judgments from yourself) and external (i.e., negative judgments from others) shame and examine whether eye gaze diversion is linked with shame generally, or is more isolated to when external shame is experienced. The study also examined experiences of dissociation to see whether there is a relationship between shame and dissociation.

As a participant, you were required to sit in front of a one-way mirror, and verbalize shame-inducing scripts while either, 1) looking at yourself in the mirror, 2) looking at the researcher through the screen or 3) looking at a black board on the screen. From this, we counted the number of times you diverted gaze from the screen within each condition. Also, your level of shame and dissociative symptoms were assessed using four different scales.

We have hypothesized: If eye gaze diversion is generally associated with shame, the same level of gaze diversion should be seen when participants are instructed to verbalise a shame-inducing story while they 1) look at themselves in a mirror, and 2) look at the researcher through a screen. However, if eye gaze diversion is more strongly related to external shame (i.e., being judged by others), participants will look away from the screen more in the condition where they see the researcher. If eye gaze diversion is more strongly related to internal shame more gaze diversion will be evident when they view themselves on the screen. This may be due to the following: In a live face-to-face situation, it is essential for a viewer to imagine him/herself in the eyes of the other, whose reactions may have an important impact on the interaction. Therefore, if these interactions are perceived as negative, then gaze diversion will result, in an effort to minimise this negative experience.

The information provided by you and other participants may not be of direct benefit to you, but may help in developing more about responses to emotions, which we hope to apply to the therapeutic setting to help people with emotional problems.

Thank you for your participation in this study, your input is very much appreciated by the research team. If you are interested in obtaining a copy of the research when it is completed, please feel free to contact the primary researcher.

APPENDIX L

Research Participation Exercise

Name:

ID:

Usercode:

Labstream:

Title of the study:

1. What was the main purpose of the study that you took part in? How does the experimenter predict the results will turn out?
2. How exactly was the main purpose for the study assessed or measured?
3. How might this research be important (how might this research apply to the real world or to furthering psychological research)?

Researcher name (print):

Researcher signature:

APPENDIX M

Shame Words

#58 Disgust
#60 Yuck
#62 Soiled
#71 Disgusted
#77 Naked
#78 Aroused
#81 Masturbate
#105 Staring
#107 Smirk
#111 Mucus
#119 Mockingly
#121 Vulnerable
#122 Inferior
#123 Exposed
#169 Touching
#172 Genitals
#173 Dirty
#251 Sexually
#252 Arousal

Shame Word Equivalents

#197 Familiarity
#203 Hi
#205 Ground
#134 in
#154 cheap
#158 Content
#230 Browsing
#14 teller
#26 smile
#45 withdrawal
#43 warmly
#47 comfortable
#48 Relaxed
#6 bank
#238 smiling
#155 flights
#75 Curious
#157 Excited
#95 for